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ABSTRACT

This study compares the three versions of DOBIS (Dartmunder Bibliothekssystem) that are currently running in Canada and the Washington Library Network (WLN) systems in order to determine which one is the most appropriate to replicate in support of the British Columbia Library Network (BCLN). Comparisons of systems costs and operating features, the availability of desired cataloging information, time required to use the systems, and the relative impact of the two systems upon cataloging operations are presented. Figures display the data in detail. An additional report, "A Summary Analysis of the Impact on Cataloguing of DOBIS and WLN," by Ann Turner, Carolyn A. Hoffman, and Shirley Ward, is included. (FM)

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Ministry of Education (Project Planning Centre)
Library Needs Assessment
BCUC Replication Study Document
Design Phase: DOBIS and WLN Comparison

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THE DOBIS AND WASHINGTON LIBRARY NETWORK SYSTEMS

A Comparison for the British Columbia Library Network

by

Dr. Ralph M. Shoffner
Mary A. Madden

Including

A SUMMARY ANALYSIS OF THE IMPACT ON CATALOGUING OF DOBIS AND WLN

by

Ann Turner
(University of British Columbia Library)
Carolyn A. Hoffman
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July 1980

Richmond, B.C., British Columbia Union Catalogue

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While we have been dependent upon all these people for their assistance, we remain responsible for any errors of fact or interpretation.

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EXECUTIVE OVERVIEW

This substudy was carried out in order to determine which system, the DOBIS system or the system operated by the Washington Library Network (WLN) is the most appropriate to replicate in the Province in support of the proposed British Columbia Library Network (BCLN). Comparisons were made of: systems costs and operating features; the availability of desired cataloguing information; time required to use the systems; and, the relative impact of the two systems upon cataloguing operations.

While either system could be used satisfactorily, the DOBIS system is preferable. Overall, the annual operating costs are slightly less ($1,930,000 for DOBIS, $2,080,000 for WLN); the costs of development are slightly less ($2,150,000 for DOBIS, $2,220,000 for WLN); and, the potential impact upon cataloguing has a greater long run potential to reduce staff requirements using the DOBIS system. In addition to cataloguing support, the systems can also provide support to acquisitions and interlibrary loan for an additional annual cost of $410,000 for DOBIS, $400,000 for WLN.

It is recommended that the province establish a British Columbia Library Network based on the present BCUC organization and use of the DOBIS system to establish a supporting bibliographic utility providing the full range of computer based services to all of the libraries of British Columbia.

The next step of the project is recommended to be the Design Phase in which the following will be performed:

- planning of a pilot project;
- establish detailed user and data base requirements;
- analyze benefits of support to acquisitions and interlibrary loan;
- establish the BCLN structure and operating policies;
- compare and select the computing facilities to support BCLN.

NOTE

Every attempt has been made to remove all factual and typographical errors from the original manuscript for the printed version of this study. However, the reader should be aware that descriptions of these systems are quickly out of date because they are still in an active process of development and improvement.

Responses from UTLAS, WLN, and the National Library of Canada were solicited by the B.C. Union Catalogue. Some of these responses were not incorporated because they involve areas of judgement and disagreement. Responses from the concerned parties along with replies from the consultants will be published under separate cover by the B.C. Union Catalogue.

Paul E. Baldwin
Director
B.C. Union Catalogue

I. INTRODUCTION AND SUMMARY

A. PURPOSE

This DOBIS substudy compares the DOBIS and WLN systems to determine which is the most appropriate system to replicate in the province. The DOBIS substudy is the first of several substudies which comprise the BCUC Replication Study. The Feasibility Substudy which immediately preceded the DOBIS substudy undertook to determine the economic feasibility of a replicated facility within the province of British Columbia.[*1] The results indicated that a replicated facility is economically feasible given the previously planned expansion of cataloguing services to include authority control and the expected expansion of the BCUC membership in 1980/81.

B. SCOPE

The scope of the DOBIS substudy was specifically defined as:

- produce a comparative feature analysis of WLN and the DOBIS versions at the National Library of Canada, Bibliocentre, and IBM;
- produce a plan for implementing the DOBIS system including a computer configuration;
- produce a cost projection for the WLN and DOBIS systems;
- provide recommendations on the most appropriate system to implement;
- provide recommendations on the next steps to be considered.

C. APPROACH

This work was carried out using the project control procedures and resources of the Joint Education Management Projects (JEM). Under the JEM control structure, this work constitutes a Design Phase substudy within the BCUC Replication Study Project. In order to gather the information necessary to the objectives of the substudy we followed the same approach as that taken in the Feasibility Substudy which compared the services of WLN and UTLAS, and this study made use of the WLN data gathered in the Feasibility Substudy. We divided our approach into three main lines of effort:

[*1] Shoffner, Dr. Ralph M. and Mary A. Madden, British Columbia Library Network, British Columbia Union Catalogue, 1980, ISBN 0-919093-00-0.

1. Comparison of the anticipated costs of a replicated WLN facility with the costs of comparable services from a replicated DOBIS facility. This work consisted of:
    a. determining the computer and communications system required to support the DOBIS system and estimating the cost of operating this system on an independent basis;
    b. defining the staffing and costs that will be required on the part of BCUC in order to operate the system, including all the network staff needed to provide support to the member libraries and to maintain the quality of cataloguing information contained in the present system;
    c. defining the effort and costs that will be required to set up the BCUC organization, the computing organizations, etc., and make it ready to provide services to the BCUC member libraries on a full operational basis in replacement of their current source for these services and products;
    d. amortizing the costs of setting up the replicated DOBIS system over the anticipated life of the facility (5 years for equipment and 10 years for the remaining costs) at a commercial rate of interest (14%).
    e. comparing the projected annual amortized operating cost of WLN taken from the Feasibility Substudy and the projected amortized operating cost of a replicated DOBIS facility under conditions providing

(reasonably) comparable services to comparable groups of members using constant 1979 dollars.

2. Comparison of the operating features of the two systems. This consisted of collecting information about the operating features of the two systems, DOBIS and WLN. Information was collected on the three versions of DOBIS presently running in Canada. The operating features information was analyzed and relative weights assigned to these features in order to arrive at an overall point score for each system. A maximum value to be assigned to each feature was provided by BCUC and reflects their assessment of the relative importance of these features to the libraries of British Columbia.

3. Comparison of the availability of cataloguing information and staff usage time requirements of the two systems. This consisted of obtaining random samples from the BCUC libraries of the materials for which cataloguing was needed; searching the two systems for cataloguing information; recording the nature of the search results and the search time; and, providing statistical analysis of the results.

On assembling our preliminary results, it became evident that there would not be a situation in which one of the systems had a clear advantage both with respect to operating features and cost. Specifically, it appeared that the cost comparison would favor DOBIS, the features comparison would favor WLN and the effect upon staff time would be mixed. Following our communication of these results, the BCUC Executive Committee established a Study Team of three BCUC librarians to assess the impact of the DOBIS and WLN systems upon the cataloguing operations of the libraries. Their purpose in establishing this team was to obtain additional detailed information (which was beyond the scope of the original study) which would make it possible to resolve the issue of which system is the best for BCUC, combining cost, features and impact on cataloguing. To this end, it was indicated that the Study Team should work with us and, if there were mutual agreement, a single, joint recommendation should be supplied. This procedure was followed and the recommendations provided herein constitute joint recommendations.

D. PRINCIPAL RESULTS

1. Economic Feasibility of DOBIS

DOBIS is economically feasible as a replicated facility for the BC libraries, and it is less costly than a WLN replicated facility, assuming in both cases the previously planned expansion of services to include authority control and the expected increase in BCUC membership in 1980/81. This is the case for the supply of cataloguing and authority control services only or for the recommended expansion of services to include support for acquisitions, and interlibrary loan. The costs for these two options for the three sources are:

a. Cataloguing with Authority Control

Scope of Services: Cataloguing with Authority Control
Scope of Libraries: Expected 1980/81 Membership

The annual costs for

DOBIS	$1,935,000
WLN	$2,080,000
UTLAS	$2,230,000

b. Expanded Services

Scope of Services: Cataloguing, Authority Control, Acquisitions, and Interlibrary loan
Scope of Libraries: Expected 1980/81 Membership

the annual costs for

DOBIS	$2,341,000
WLN	$2,480,000
UTLAS	acquisitions not presently available

2. Initial Costs of Replication

Under the JEM control structure, the replication would take place in two phases, Design and Implementation. In planning these phases for the DOBIS system, effort was included to add features needed by the BCUC member libraries. The resulting costs for these phases, divided into six month segments are:

		DOBIS	WLN
a.	Design, first six months	$200,000	$200,000
b.	Implementation, second 6 mos.	594,000	494,000
c.	Implementation, third 6 mos.	659,000	659,000
d.	Implementation, fourth 6 mos.	700,000	870,000
	Total	$2,153,000	$2,223,000
	Rounded to	$2,150,000	$2,220,000

These costs were amortized at commercial rates of interest and included in the annual cost comparison of the two systems.

3. Comparison of Operating Characteristics

In the comparison of system features, WLN was awarded 11% more of the total points than did the highest scoring of the DOBIS versions (623 points to 519 for the Bibliocentre version). The features on which the WLN advantage was greatest were:

a. Acquisitions - WLN has been serving several libraries for more than one year. The DOBIS subsystem has been developed and tested, but it has not been used in a production environment.
b. Bibliographic Record Management - WLN has been using its system in a production environment and has developed more extensive control and editing procedures than DOBIS has.
c. Batch Products - WLN has developed a more extensive range of batch products than are presently available from any of the DOBIS versions.

The features on which the DOBIS advantage were greatest were:

a. Authority Control - A more extensive authority control is available within DOBIS than within the present WLN structure.
b. Public Access - The DOBIS system is more readily used by the unfamiliar user than is WLN.

Finally, one of the features, Circulation, is potentially misleading. The WLN circulation is on a minicomputer system which is separate from the mainframe computer system supporting the other subsystems. Circulation support per se was outside the scope of the Feasibility Substudy and therefore no equipment or staff costs were included for the support of a WLN based circulation operation. Similarly, in the comparison with DOBIS, no costs were estimated for equipment and staff to support circulation.

The sampling to estimate search time, hit rates and original input time did not produce differences that are statistically significant. However, the results obtained indicate that search time on DOBIS is 60-70% the length of time required on WLN (0.6 - 0.7 minute compared with 1.0 minute), while original input time on DOBIS is 172% of the time required on WLN (5.0 minutes compared to 2.9 minutes). This latter time is somewhat misleading, however, because the organization of the input work on DOBIS is such that less time is spent in cataloguing work off the terminal than with the WLN system. Finally, the hit rate for the two systems is very close, 77% for DOBIS and 79% for WLN.

Overall, from the point of view of immediately available features, and based upon the weightings provided by BCUC, WLN provides more favorable results than DOBIS. However, each system has its own strengths and needs and each system would require continuing development and improvement in order to support the BCLN libraries on a continuing basis. Finally, as mentioned above, the results on search time, original input time and hit rate do not allow us to make a statistically reliable estimate of the relative impact upon cataloguing effort that would be experienced with the two systems. The separate analysis of impact upon cataloguing sheds more light on this issue.

4. Impact upon Cataloguing

The DOBIS system was found to have a greater positive effect upon cataloguing operations than the WLN system. Either system would have little impact on the current organization of cataloguing workflows, or on current job descriptions, classifications, etc. While the DOBIS system would require more retraining than would the WLN system, the level of this retraining effort is not very great in absolute terms and it could be provided readily. Though difficult to pinpoint in quantitative terms, the DOBIS system offers greater potential for the improvement of cataloguing productivity than does the WLN system. This is because the DOBIS system is organized to support original cataloguing directly on the system while WLN cannot readily be used in this manner.

Either the DOBIS system or the WLN system would need to be modified in its operations, before it could be used as a direct replacement for the UTLAS system as it is currently being used by the libraries. A point rating system was established and applied in order to rate the alternative systems both as they are presently operated and as they would be after revision to meet the basic operating requirements of the present BCUC libraries. The results are as follows:

	UTLAS	NL/CISTI	Biblio-centre	WLN
a. At Present (790 points)	76%	74%	72%	60%
b. After Modification	76%	86%	83%	81%

Substantially more modification would need to be defined in order to bring the WLN system up to the level of the DOBIS systems with regard to cataloguing support (cf. p.5).

5. Implementation Planning

As indicated above, either DOBIS or WLN will require some modification on replication of the system and will require continuing development following installation. The improvements for the systems are divided into four categories: those tasks which are required during implementation of the system; those which may be performed either during or following implementation; those which should be performed following implementation; and those of a longer term nature which should be performed only after all other tasks have been accomplished. Effort estimates were made for the first three categories; the fourth category is the same for all systems and is assumed to be limited by the level of effort available to be applied to on-going development. Given in person-hours, the estimated data processing effort required for each system and the first three categories is:

	DOBIS NL/CISTI	DOBIS Bibliocentre	DOBIS IBM	WLN
a. During Implementation	1774	1564	1664	1724
b. Either During or After Implementation	250	210	250	30
c. After Implementation	440	440	440	160
Total Data Processing Effort	2464	2214	2354	1914

6. Overall Recommendations

a. Adopt DOBIS as the most appropriate system to meet the economic and service needs of British Columbia.

Compared with WLN, the DOBIS system has a greater long run potential to reduce in-library cataloguing costs and it will be less expensive to implement and to operate.

b. Choose the NL/CISTI version of DOBIS on the condition that its planned output products are available prior to the time that the British Columbia committment must be made.

c. Choose the Centennial College Bibliocentre version of DOBIS if the planned output products of the NL/CISTI version of DOBIS are unavailable at the time that the British Columbia committment must be made.

The Bibliocentre version is extremely close to the NL/CISTI version of DOBIS in the support that it provides to cataloguing, it has the potential of immediate support to acquisitions and it is only slightly more costly than the NL/CISTI version. Thus, it represents an extremely close second choice to the NL/CISTI version.

d. Approach the National Library of Canada to sponsor a development project to establish a telecommunications link between BCLN and NL/CISTI for the purposes of data base sharing.

Data base sharing will become more and more important as the means to provide access to the resources of the region and the nation as automated cataloguing expands. The link between BCLN and NL/CISTI could serve as an operating prototype of such communications.

e. Contract with the Bibliocentre for their programs to load UTLAS and CAN MARC files and to produce output products.

The BCLN facility must have efficient programs for loading its files. The Bibliocentre has developed these programs and will make them available along with their output programs for the production of cards, labels, COM, etc. Though modification may be required for them to work with the NL/CISTI version, this is likely to be more effective than independent development.

f. Arrange to obtain a copy of the BCUC data base loaded into NL/CISTI from the National Library's development of a national union catalogue.

The National Library is planning to load the BCUC data base from UTLAS in their developing on-line catalogue. The BCLN should be able to take advantage of this and avoid duplicating the effort to load this data base.

g. Proceed with the general recommendations and plans of the Feasibility Substudy.

All results of this substudy are consistent with the project plans outlined in the Feasibility Substudy. While the DOBIS implementation plan varies in some details from the WLN implementation plans, the times and costs defined in the Feasibility Substudy are sufficient for either system. The next steps would consist of the Substudies within the Design Phase:

Pilot Projects using DOBIS
Service Priorities for expansion of services
BCLN Policy - governance, organization and pricing
Hardware and Facility Evaluation
User and Data Base Requirements

II. CONTEXT

A. BIBLIOGRAPHIC NETWORKS AND UTILITIES

A library network is a cooperative group of libraries. Major network functions are to obtain common member services and to conduct activities of joint benefit. Collective network resources are often able to provide a greater range and depth of information services to its constituents than they could achieve as completely independent enterprises.

A network uses the services of a bibliographic utility i.e., a facility comprised of computer equipment (hardware), computer programs (software), a database, and supporting personnel. At present, there are four bibliographic utilities operating in North America. They are:

1. OCLC, Inc.,
2. University of Toronto Library Automation Services (UTLAS),
3. Washington Library Network (WLN), operated by the Washington State Library, and the
4. Research Libraries Information Network (RLIN).

WLN and RLG also function as networks for their memberships.

Although the bibliographic utilities are not organized as profit-making corporations, they do compete for library membership. Often this competition is subject to geographic or other constraints. Utilities do not now share bibliographic information, but recent developments (such as an agreement between WLN and RLG) suggest that database sharing eventually will take place routinely and should therefore be anticipated in any future planning.

B. BCUC

Originally organized as a project, the British Columbia Union Catalogue Project (BCUC) is now functioning as a network. The twenty-five BCUC library members have cooperated in the last three years to build a union database of over one million records. They have also implemented a common on-line catalogue support system; defined and accepted common bibliographic and coding standards; closed their manual card catalogues and replaced them with computer products and services; and engaged in a project, Shared Authorities File (SHARAF), to build an authority file that will be of use to libraries all over Canada as well as libraries within British Columbia. These libraries, members of BCUC, have shown over the last two years that they can cooperate and coordinate their activities and derive mutual benefits.

The BCUC central office is comprised of a small but competent staff who possess strength in management, library systems, and library bibliographic standards.

The accomplishments of the member libraries and the BCUC office provide a strong basis for prediction of success in future endeavors, such as a replicated bibliographic utility.

A British Columbia Library Network is a further extension of the cooperation possible among libraries. Through cooperation libraries can broaden the range of services. BCLN is a mechanism for sharing, and the membership of BCLN can be extended beyond the present membership of BCUC. Indeed the Feasibility Substudy recommended that the membership be expanded so that more libraries would share the costs of the replicated facility and also the improved services available only through cooperation.

C. NETWORK DEVELOPMENTS

Figure 1 illustrates the phases of the project to establish a British Columbia Library Network. The Joint Educational Management (JEM) project control package has been used to structure and manage the work to date. The Definition Phase was an evaluation of the economic feasibility of establishing a bibliographic utility within the province versus continuing with the present remote supplier of these services (UTLAS). The Definition Phase immediately preceded the Design Phase. This substudy of DOBIS is one of many such studies within the Design Plan. The Implementation Phase will be the next phase, and will involve the acquisition and installation of equipment, installation and testing of software, loading and editing user data files, training BCUC libraries on the system, and monitoring results.

Substudies of the Design Phase, of which the present project is one, are shown in Figure 2. Briefly, these are:

Pilot Design, Pilot Implementation: Formulation of a pilot project to be run during Implementation Phase using existing DOBIS or WLN facilities. This is desirable because it serves to verify the information gathered about the system and also aids in training and preparation for transfer of operations from UTLAS to the new B.C. Library Network (BCLN).

Service Priorities: Analysis of the benefits and demand for extending the services to acquisitions, interlibrary loan and circulation.

DOBIS: Comparison of DOBIS and WLN, the alternatives for replication and selection of the most appropriate alternative for BCLN.

User and Data Base: Establishment of the user and data base requirements for the bibliographic utility and planning for the transfer of existing BCUC data bases.

FIGURE 1

BCUC REPLICATION PROJECT
OVERVIEW OF JEM PHASING

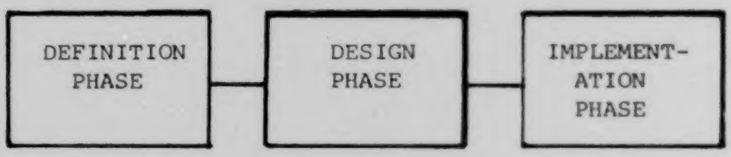
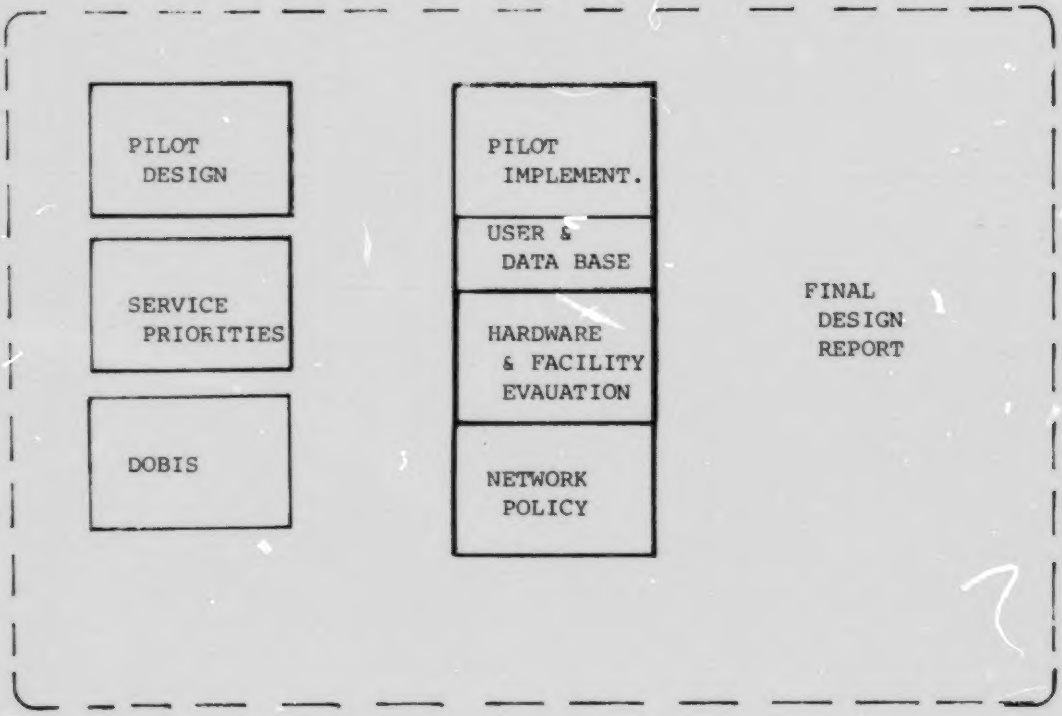

DEFINITION PHASE
DESIGN PHASE
IMPLEMENTATION PHASE

FIGURE 2

DESIGN PHASE STUDIES


PILOT DESIGN
SERVICE PRIORITIES
DOBIS
PILOT IMPLEMENT.
USER & DATA BASE
HARDWARE & FACILITY EVAUATION
NETWORK POLICY
FINAL DESIGN REPORT

Hardware and Facility Evaluation: Consideration of alternative methods of providing the necessary computing support, using either a computer dedicated to BCLN or one shared with other applications. Selection of the most appropriate facility for BCLN;

Network Policies: Formulation of the BCLN structure and operating policies, including governance, organization, pricing and finance, and implementation priorities;

Final Design Report: Preparation of a report culminating the Design Phase.

III. ANALYSIS OF OPERATING CHARACTERISTICS - DOBIS & WLN

A. OVERVIEW

1. Procedure

After the required information was identified, appropriate methods for collecting that information were devised. These methods varied with the nature of the data and the available data-gathering person-power.

Detailed written questions, site visits and a formal rating scheme were all used to gather information to formulate an in-depth feature comparison of the two systems. Random samples of acquisitions were used to make an estimate of record availability and search time. A small sample of records was also used to estimate original input time.

Data gathering tasks were shared by Ringgold Management Systems and the BCUC office. WLN efforts began in June 1979, and were completed by January 1980; feature comparisons and user information were pursued at three DOBIS sites: NL/CISTI, Bibliocentre, and IBM.

Features comparison results, detailed in III. B, were obtained in two steps. First, BCUC supplied their relative priorities for various system features - search capability, file management, circulation control, etc. - in the form of a maximum point value for the way in which the system provided each feature. Ringgold then distributed those points over the questions about each feature and assigned points to the answers given. Points were totaled to yield an overall system score.

DOBIS statistical sampling was confined to NL/CISTI and Bibliocentre. Resampling of WLN was done to make the time frames consistent. Data analysis was completed in June 1980. Random samples of record availability record input effort and search times were processed to provide estimates of the utility of DOBIS versus WLN; detailed results comprise III. C.

Finally, in III. D, the results of the DOBIS features comparison are considered in relation to the WLN features comparison.

2. Summary Results

The results of the operating characteristics comparison indicate that WLN is better in operational features than are the various versions of the DOBIS system. With respect to search time, hit rate and record input time, the sample sizes used were not sufficient to provide a statistically reliable discrimination between the systems. However, the systems appear to be very close to each other.

In summary, the results are:

	NL/ CISTI	BIBLIO- CENTER	IBM	WLN	UTLAS
a. System features					
1. Points awarded	453	519	496	623	560
2. Percent of total	47	54	51	65	58
b. Search time					
1. Minutes per search	0.6	0.7	--	1.0	1.8
2. 95% confidence range	±1.0	--		±0.1	±1.2
c. Record availability					
1. Find percentage	77	27	--	79	76*1
2. 95% confidence range	±2	± -		±2	±3
d. Original input					
1. Minutes per record	5.0	-	--	2.9	5.9
2. 95% confidence range	± -			±0.4	±0.6

---

*1. The UTLAS find rate was increased by the same amount that the WLN rate increased based upon a re-search of the WLN non-hits.

II. COMPARISON OF DOBIS VERSIONS

1. Procedures

The Consultants studied three different versions of DOBIS: National Library of Canada and Canadian Institute of Science, Technology and Information version (NL/CISTI), the Bibliocentre - Centennial College version, and the IBM-Canada version. A chart of the ancestry and interrelationships of these three versions is included in Appendix A.

Each version was reviewed in detail for the Feature Comparison. The record availability and search time studies were done on the NL/CISTI version with a limited test on the Bibliocentre version. There are two reasons behind the limited testing of record availability and search time: 1. NL/CISTI has the largest data base of the three (IBM has no data base at all), and the hit rate on BCUC's replicated facility will depend on their choice of machine readable data bases to be included. 2. The search times will vary with equipment capacity and demand, so the times can be taken as only generally indicative at most.

2. Results

The overall results are displayed in Figure 3.

a. Feature Comparison

Figure 4 is a display of the Feature Analysis of the DOBIS versions. The evaluation of the three systems differ markedly in some specific areas, but overall the totals are relatively close. A discussion of major version differences is in order.

The IBM version was not evaluated in an operational setting. Therefore the entire "General Management" section and various policy questions in the other sections simply do not apply, so points could not be awarded.

FIGURE 3

RESULTS OF THE COMPARISON OF THREE DOBIS VERSIONS

	NL/CISTI	BIBLIO-CENTRE	IBM
Feature Comparison	459	519	496
Record Availability	77%	27%[*1]	-
Search Time *2.	0.6 min	0.7 min	-
Record Input Time	5.0 min	-	-
Production Experience	Limited	Yes	No
Training	15 work days at NL/CISTI for two persons	3 days at Bibliocentre for three persons - 10 days at BCLN for ten persons after installation	Yes
Initial Installation Support	5 work days at Licensee	3 persons at BCLN as needed	Negotiable
On-going Support	Bidirectional Reporting	Bidirectional Reporting	Limited
Guarantees	None	None	None

*1 The search was run against Bibliocentre holdings only, thus, it is not a reflection of the hit rate if the search were performed against the entire MARC data base.

*2. Number of records searched: NL/CISTI, 1128; Bibliocentre, 359.

FIGURE 4

DOBIS
FEATURES COMPARISON RESULTS

	Feature	Total Possible Points *1	Points Awarded		
			NL/CISTI DOBIS	BIBLIO-CENTRE	IBM
1.	Search	130	93	90	98
2.	File Security	110	82	78	64
3.	Acq.	95	-	- *2	35 *3
4.	Serials	70	11	19	19
5.	Batch Prod	70	13	34	28.5
6.	Recon	50	22	41	22
7.	Auth Control	120	78	75	68
8.	Circ	70	-	57	59
9.	Public Access	50	34	31	33
10.	User	60	46	25	25
11.	Gen'l Mgmt.	40	22	20	-
12.	Bib Rec Mgmt.	100	58	49	45
TOTAL, ALL FEATURES		965	459	519	496.5
PERCENT OF TOTAL POINTS		100%	48%	54%	51%

*1. Total possible points per feature established by BCUC to reflect their relative importance.

*2. No points awarded because LIBIS acquisitions has not been tested.

*3. Points awarded are 50% of normal because acquisitions has not yet been used in a production environment.

The Bibliocentre version has undergone some modification, since the software was acquired from the National Library of Canada and the Catholic University of Leuven. In particular, programs have been written to load UTLAS and LC MARC files. Other changes have included programs to produce output products, COM in particular. Bibliocentre felt the DOBIS/LIBIS file loading and extraction programs could be revised to run more efficiently. Bibliocentre has implemented the circulation module, but not the acquisitions module of LIBIS.

The NL/CISTI version has also undergone further modification. In particular the authorization and security scheme has been made more sophisticated to allow varying degrees of authorization for changing data records depending on the source of the information in the data record. Further, NL/CISTI has expanded the information in the authority heading records to make them fully comparible with MARC II. Although DOBIS was designed to be used without user documentation, NL/CISTI decided that some documentation was needed by users and has prepared user documentation. Neither the acquisitions nor circulation modules have been implemented. The software changes made by NL/CISTI will require additional changes before the LIBIS package can be implemented at NL/CISTI. Finally, at the time of the site visit no batch products were available from the system.

b. Record Availability

A full data base seach was done on NL/CISTI which has the largest DOBIS data base, and a more limited search was performed against the Bibliocentre's own holdings.
The hit rate for any of the DOBIS versions is dependent on the data base, and not on the software versions. In a replicated facility, BCUC will be able to affect the hit rate by adding source records to their data base.

That is, in addition to the BCUC contributed records from UTLAS, BCUC can add MARC records (CAN, LC, and BNB) to their data base to increase the potential hit rate.

c. Search Time

The search times between the various versions of DOBIS should not differ substantially, because the software modifications made by each have not affected the basic file and record architecture. The search time will vary with the processing load on the computer system and with the size of the data base. At present the NL/CISTI has the largest file, and this was the version for which search time calculations were made.

d. Other Areas of Comparison

1. Production Experience

Production experience means operation of the system on a daily basis to support the technical services activities of an institution.

The NL/CISTI version has been used in a pilot mode to support the Union Serials project. CISTI, the Library of Parliament and NL are beginning to use DOBIS in their technical services area. Batch products are scheduled to be available soon. Therefore, NL/CISTI will soon have regular production experience with their version of DOBIS.

To date only Bibliocentre has been in a production environment. All batch processing, cataloguing products, and limited circulation activities have been supported by their version of DOBIS/LIBIS.

The IBM version is being operated in production environments in Europe, but the IBM representatives in Canada do not have experience with day to day operations of DOBIS/LIBIS.

2. Installation Support

NL/CISTI will provide up to 15 working days of training at NL/CISTI for at most two persons. Further NL/CISTI will designate one of their staff to help with the installation of the software for up to 5 working days (see Appendix I). No guarantee is associated with this support.

The Bibliocentre will provide installation support, training support and will load the BCUC data base to be obtained from UTLAS. Details of this suggested support are provided in Appendix H. In brief, three days of training support will be provided at the Bibliocentre for three people in advance of installation; three people will be provided on site at BCLN to support installation as needed; and three person-weeks will be provided on site at BCLN to provide user training to 10 people over a two week period.

IBM will make local IBM staff available for help with implementation of the software. There will be an additional fee for this assistance, and it will depend on the availability of local systems engineers.

3. On-Going Support

Both NL/CISTI and Bibliocentre have stated in conversations that they would wish to share modifications to their versions with any other licensees. Neither is in a position to offer continuing maintenance or development to a licensee.

IBM has a mechanism for reporting malfunctions and suggested improvements. The DOBIS/LIBIS is not, however, an IBM supported package. This means that IBM may correct the malfunctions and program the improvements, but are under no formal obligation to do so.

C. COMPARISON OF DOBIS AND WLN FOR RECORD AVAILABILITY AND SEARCH TIMES

1. Procedure

A sample of records selected from new materials received by BCUC institutions during the summer of 1979 was searched against the two systems. A total sample of size 1100 was expected to provide a confidence level of 95% with ± 5% accuracy for the component university and college groups. The WLN sample, actual size 1130, was searched during October 1979, while the DOBIS sample, size 1128, was searched in March 1980. DOBIS results were likely to be slightly inflated by additions to the DOBIS data base of LC MARC and CAN MARC machine readable records during that interim period. Because the record entry date into the DOBIS system was unavailable, no correction of the DOBIS result was possible. Therefore, to correct this bias, the records not found in WLN were researched and the WLN hit rate was modified to be comparable in time with the DOBIS hit rate.

2. Results

Figure 5 shows the sample results. In the DOBIS system 69% ± 3% of the sampled titles were found, while 73% ± 3% were found in WLN.

DOBIS-A results are corrected to include BCUC contributed records from UTLAS that were not found. WLN-A results include both these BCUC contributed records and CAN MARC records not found therein. (The assumption is that these records would be available in whatever system is used by BCUC libraries, although they are presently unavailable in the respective databases.) DOBIS-A and WLN-A are the most comparable to the existing UTLAS system; overall DOBIS-A and WLN-A success rates correct to 77% ± 2% and 79% ± 2%, respectively.

FIGURE 5

SAMPLE RESULTS
SEARCH TIME & SUCCESS RATES

GROUP	TOTAL TITLES SEARCHED	TOTAL SEARCH TIME (MINUTES)	MEAN MINUTES PER SEARCH *4	TOTAL TITLES FOUND	TITLES FOUND % OF TOTAL SEARCHED *4	MEAN MINUTES PER TITLE FOUND
UNIV:						
DOBIS	558	282	0.5 ± 0.7	341	61 ± 4	0.8
DOBIS-A *1	558	---	0.5 (est.)	377	68 ± 4	0.7
WLN-A *2	559	---	0.9 (est.)	382	68 ± 4	1.3
DOBIS-B *3	558	---	0.5 (est.)	329	59 ± 4	0.9
WLN	559	490	0.9 ± 0.1	337	60 ± 4	1.5
COLLEGES"						
DOBIS	438	276	0.6 ± 1.3	347	79 ± 4	0.8
DOBIS-A	438	---	0.6 (est.)	391	89 ± 3	0.7
WLN-A	439	---	1.1 (est.)	407	93 ± 2	1.2
DOBIS-B	438	---	0.6 (est.)	325	74 ± 4	0.8
WLN	439	480	1.1 ± 0.1	383	87 ± 3	1.3
OTHER:						
DOBIS	132	82	0.6 ± 1.1	92	70 ± 8	0.9
DOBIS-A	132	---	0.6 (est.)	102	77 ± 7	0.8
WLN-A	132	---	1.0 (est.)	107	81 ± 7	1.2
DOBIS-B	132	---	0.6 (est.)	85	64 ± 8	1.0
WLN	132	125	1.0 ± 0.4	102	77 ± 7	1.2
TOTALS:						
DOBIS	1128	640	0.6 ± 1.0	780	69 ± 3	0.8
DOBIS-A	1128	---	0.6 (est.)	870	77 ± 2	0.7
WLN-A	1130	---	1.0 (est.)	896	79 ± 2	1.2
DOBIS-B	1128	---	0.6 (est.)	739	66 ± 3	0.9
WLN	1130	1095	1.0 ± 0.1	822	73 ± 3	1.3

*1. Includes UTLAS BCUC - contributed records not found in DOBIS.
*2. Includes BCUC - contributed records and CAN MARC records not found in WLN.
*3. Excludes DOBIS CAN MARC records not found in WLN.
*4. Results are based on 95% confidence.

The -A systems success rates overlap in the range 77% to 79%. Thus we cannot conclude that the hit rates differ significantly for current materials; additional testing (with a larger sample) would be necessary to make more refined estimates of the overall hit rate difference.

Results for each of the library subgroups - universities, colleges and other - differ slightly from overall results. The DOBIS-A rate for university materials is 68% ± 4%, while in WLN-A - 68% ± 4% of these materials were found. (These are lower than the overall sample rates because of the uniqueness of some of the universities; research materials.) Again, no statistical differences can be seen with this sample.

The percent of college titles found is 89% ± 3% in DOBIS-A and 93% ± 2% in WLN-A, higher than the sample as a whole. (More of the college acquisitions were found because this material is less diverse than that of the universities.) The range of overlap is 90% to 91%. A longer sample would be required if a significant difference between the two systems for college-purchased materials were to be established.

For the "other" group, the percent of titles found on DOBIS-A and WLN-A is 77% ± 7% and 81% ± 7%, respectively. The range of overlap, 74% to 84%, shows, no significant difference in the two systems for acquisitions by this group. A larger sample size would be needed to yield significant hit-rate differences for the "other" group.

Figure 6 provides an estimate of the combined search and original input time for NL/CISTI and for WLN. As this figure shows, for the ratio of copy cataloguing to original cataloguing expected for the current BCUC libraries, the overall times would be 9% higher for NL/CISTI than WLN. Two cautions are important with respect to this result. First, the statistical analysis indicates that the results are so close in relation to the sample sizes that no statistical confidence can be placed upon the differences. And second, the DOBIS system is likely to require less off-terminal cataloguing time than the WLN system does. As a result, no conclusive statements can be made about the differential effects upon cataloguing staff that are likely.

FIGURE 6

ESTIMATION OF SEARCH TIME AND ORIGINAL INPUT FOR CURRENT BCUC WORKLOAD

	DOBIS-A	WLN-A
Search Time (hours) (230,000 titles)	2300 ± 3800	3833 ± 383
Total Titles Found	177,100 ± 4600	181,700 ± 4600
Total Titles Not Found	52,900 ± 4600	48,300 ± 4600
Original Input Minutes Per Title	5.0	2.9
Total Original Input (Hours)		
Time, Titles Not Found	4408 ± 383	2335 ± 322
Total Time, Hours	6708*	6168*
Percentage	109	100

*Note that the two systems are not comparable in the amount of non-terminal time required by the cataloguing staff. While DOBIS is expected to require less time than WLN, no quantitative estimates were made.

Also, the sample sizes and variances are such that no statistical reliability can be attached to these results.

D. FEATURE COMPARISON OF DOBIS AND WLN

Twelve system areas were scrutinized in the features comparison. They are: General Management and Organization of the System, File Security and Management, Bibliographic Record Management, Search Capability, Authority Control, Batch Products and Services, Retrospective Conversion (RECON), User Instructions and Documentation, Serials, Asquisitions, Circulation, and Public Access. Detailed questions in each area identified the capability, the status (i.e., operational or under development) and the usefulness of the feature. Information on the replication of the WLN system was also gathered.

The questions served as guides for visits to the WLN facility and to sites of three separate versions of DOBIS: NL/CISTI, Bibliocentre and IBM (Appendix A charts the interrelationships of these three.) The attempt was made to obtain consistent information from all sites. Responses were written up and sent to the institutions for their review and comment, then the final copy was established during the prior feasibility substudy. A BCUC committee reviewed the questions in order to determine a rating for each of the twelve system features areas. Each participant allocated 100 points across the twelve feature areas, appraising each area in terms of its relative worth to the BCUC libraries. This was not a strict ranking of features; two or more features were allowed to have the same point value. Ratings were first assigned by the individuals, after which the group as whole met to negotiate the final weightings. These are displayed in Figure 7.

The consultants then each distributed the available points to the items within each area. These individual point assignments, especially point differences, were then discussed, so as to identify areas of different interpretation of the various features and to obtain a common assessment of their relative importance.

FIGURE 7

BCUC -- DOBIS & WLN

FEATURE COMPARISON RATINGS

FEATURE	RATING
1. Search Capability Access keys available for searching the bibliographic, holdings, and authority files; types of searching - Boolean, browsing, CRT displays of matching records.	130
2. File Security and Management Schema of file interrelationships; file and index up-date practices; data and file security and reliability; response time data.	110
3. Bibliographic Record Management Record structure; data input quality standards; and policy on duplicate records.	100
4. Acquisitions Types of materials for which purchases are handled; acquisitions files and data elements; output products - purchase orders, claims, cancellations, etc ; fund accounting capabilities.	95
5. Serials Description of serials functions performed; serials files and data elements; link to other applications subsystems.	70
6. Batch Products and Services Characteristics of catalog cards, labels, edit lists, COM catalogs, and magnetic tapes.	70

FIGURE 7
(Continued)

BCUC -- DOBIS & WLN

FEATURE COMPARISON RATINGS

FEATURE	RATING
7. RECON Facilities - batch or on-line - for conversion of manual files.	50
8. Authority Control Automated means to regularize the vocabulary words important as access points.	120
9. Circulation Control Inventory control of items out on loan and on the shelves.	70
10. Public Access Library users inquiry via CRT into the library's holdings.	50
11. User Instructions and Documentation Comprehensiveness, accuracy and effectiveness of the user manuals and documentation.	60
12. General Management Size and organization of the systems staff, development funding, future growth.	40
TOTAL	965

Figure 8 shows the points awarded in the features comparison to the three DOBIS systems and to the WLN and UTLAS systems. From this display, it is evident that the DOBIS systems as they are presently implemented on a production basis, are not as extensively developed as either the WLN or the UTLAS system. That is, in terms of total points, the systems received:

	NL/CISTI	Bibliocentre	IBM	WLN	UTLAS
a. Total points	459	519	496	623	560
b. Percent of available	48	54	51	65	58

A review of the areas of greatest difference is in order. First, the WLN acquisitions subsystem has been in regular production for over a year; the IBM LIBIS acquisitions subsystem has been developed and tested, but is not in regular production use as yet; the IBM LIBIS is being used at the Bibliocentre for circulation, but the acquisitions subsystem is expected to be revised before use; and the LIBIS system would have to be modified before it could be used (or tested) with the NL/CISTI system.

In other words, while there is a LIBIS acquisition subsystem, it is not known to be "bug" or "error" free. For these reasons, DOBIS was given 50% of the points that would have been awarded if the system were in operation. That is, the procedure was to evaluate DOBIS acquisition as if it were fully operational, and then deduct half the points because it is yet to be implemented and finally checked-out, or tested. The reasoning is that a system in the feasibility or design phase is in the talking stages, a system that has been programmed and tested - does exist, but there remains work to be done before it is operational, so this latter system deserves more points than a system in design, but fewer than an operational system.

FIGURE 8

FEATURES COMPARISON RESULTS

	Feature	Total Possible Points *1	Points Awarded				
			NL/CISTI DOBIS	BIBLIO-CENTER DOBIS	IBM DOBIS	WLN	UTLAS
1.	Search	130	93	90	98	105.5	95.5
2.	File Security	110	82	78	64	76	72
3.	Acq.	95	-	-	35	58	2
4.	Serials	70	11	19	19	9	2
5.	Batch Proc	70	13	34	28.5	48.5	54
6.	Recon	50	22	41	22	40	40
7.	Auth Control	120	78	75	68	57	97
8.	Circ	70	-	57	59	62	48
9.	Public Access	50	34	31	33	21 *2	19 *2
10.	User	60	46	25	25	38	48
11.	Gen'l Mgmt	40	22	20	-	19	28
12.	Bib Rec Mgmt	100	58	49	45	89	55
	TOTAL, ALL FEATURES	965	459	519	496.5	623	560.5
	Ratio to Total Points	100%	48%	54%	51%	65%	58%

*1. Total possible points per feature established by BCUC to reflect their relative importance.

*2. Modified from the Feasibility Substudy to reflect main frame access only.

Second, bibliographic record management has been more extensively developed by WLN, which provides regular central review of original input from member libraries and has special editing screens to facilitate this process. UTLAS does not support this process and the DOBIS procedures are not fully developed.

WLN has a central bibliographic review section for review and release of all new records added to the data base by the WLN membership. This policy enables WLN to enforce a high bibliographic standard. The WLN software can be changed to remove the central review, or the policy can be changed for a decentralized review by selected individuals or institutions. While the Bibliocentre and IBM versions have authorization levels that restrict who may input and/or update a record, there are no controls to support a central review. The NL/CISTI version has been expanded to recognize source of cataloguing vis a vis authorization level. While this approach offers the possibility of more flexibility and precision in the enforcement of quality standards, the procedures have not yet been defined. The DOBIS versions have not yet dealt with the duplicate matches that result from the batch addition of LC MARC subscription tapes. WLN has thorough duplication matching procedures; NL/CISTI is just in the process of working them out.

Third, both UTLAS and WLN have a more extensive array of batch products than does DOBIS. Indeed, NL/CISTI batch products are not yet in production status, albeit they are scheduled to go into production in the near future. While DOBIS has a seemingly flexible means for formatting and generating output products, few products are actually in production. In particular, the Bibliocentre has few COM catalog entry formats and no cross references in the COM catalogues. None of the DOBIS systems as yet have the capability to generate LC MARC output tapes. All of these would require development effort.

Fourth, authority control has been most extensively developed by UTLAS and least well developed by WLN. It should be noted again that this applies to the capabilities of the operational system and does not take into account the number of records in the respective data bases which are under full authority control.

Fifth, both WLN and UTLAS are extensively documented. By contrast, DOBIS was developed to guide the on-line user via messages through the display screens and functions, and therefore it was thought that separate written instructions would not be needed. While this does explain the lack of documentation, there is not universal agreement among DOBIS users as to the truth of this design philosophy. For example, NL/CISTI has been developing user documentation for their system.

And sixth, the DOBIS system in all three versions has greater capability in the support of public access, that is use by the relative novice, than do the WLN or UTLAS systems. This is due to the extensive prompting and menu selection features which are an integral part of the DOBIS design.

The circulation feature comparison is potentially misleading. Circulation is an integral portion of the LIBIS system and it is executed on the mainframe system which would also execute DOBIS. By contrast, a separate minicomputer system supports the circulation subsystems of WLN and UTLAS. As a result, the comparisons are not fully comparable. Further, while the circulation features of the system were considered within this study, the actual support of circulation for the BCUC member libraries is outside the study scope. As a result, there is no estimation of the requirements, equipment, staff or time, to support circulation for the BCLN member libraries.

IV. A SUMMARY ANALYSIS OF THE IMPACT ON CATALOGUING OF DOBIS AND WLN By Ann Turner, Carolyn A. Hoffman, Shirley Ward *

A. OVERVIEW

During the progress of the study, it became clear that there would not be a situation in which one system, DOBIS or WLN, dominated the other system in all respects. Specifially, it appeared that the features comparison would favor WLN, while the cost comparison would favor DOBIS. In this situation, it was deemed important to assess the impact that each of the systems would have upon cataloguing operations of the libraries. To make this assessment, the BCUC Executive Committee established a Study Team of BCUC librarians to assess this impact.

The purpose in initiating this additional work was to obtain added information and make it possible to resolve the issue of which system was the best for BCUC, given all of the issues, features, cost and impact. To this end, it was indicated that the Study Team should work with Ringgold Management Systems and, if there were mutual agreement, a single joint recommendation should be supplied.

Specifically, the team was to consider:

1. What effect the introduction of the new system would have on workflows.
2. Whether there would be a need to alter existing job descriptions, classifications, and pay grades to accommodate workflow changes.
3. What retraining and reorganization would be required in libraries already using UTLAS as a cataloguing utility.
4. What changes in productivity could be expected when the new system was operational.

In addition to these questions, which were included in the mandate from the BCUC Director, the Study Team felt that it was necessary to examine the cataloguing - and searching - related features of the two systems in detail to determine whether either or both systems had limitations that would impact on a cataloguing process as it is presently established according to UTLAS' capabilities. It was hoped that the two systems under study would include new time and labor-saving features which are not, at present, provided by UTLAS.

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* A summary of the authors' separately published report: DOBIS-WLN Impact Study, Richmond, B.C.: British Columbia Union Catalogue (1980). ISBN 0-919093-02-7

B. PROCEDURE

1. The Study Team developed in advance a set of questions to guide its information-gathering efforts and the observation of the two systems in operation.
2. The Study Team examined the documentation for each system which was available in the BCUC Project Office, collected more documentation on its travels, and also reviewed the information collected by Ringgold Management Systems.
3. The Study Team visited libraries that are now using one of the systems:
   Pacific Lutheran University Library, Tacoma, Wash.
   King County Library System Service Center, Seattle, Wash.
   WLN Network Office, Washington State Library, Olympia, Wash.
   National Library of Canada, Ottawa, Ont.
   College Bibliocentre, Toronto. Ont.
   CISTI, Ottawa, Ont.
4. The Study Team evaluated both systems in terms of the information that had been obtained.
5. The Study Team produced a report of their work and results. *1

The following subsections are a reproduction of the "Summary of Results and Conclusions" section from the Study Team's report. *2 Only the subsection lettering has been changed to provide consistency with the structure of this report.

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*1. Turner, Ann, Carolyn Hoffman and Shirley Ward, DOBIS-WLN Impact Study, British Columbia Union Catalogue, 1980.

*2. Ibid., p. 6 - 19.

C. SUMMARY

The Study Team examined three systems: Washington Library Network (WLN), DOBIS as implemented by College Bibliocentre (CLL DOBIS), and DOBIS as implemented by the National Library of Canada (NL DOBIS). Though both DOBIS versions developed from a common parent, MARC DOBIS Version 1 they grew in different ways; they are no longer clones of the parent, nor even twins of each other. Both institutions modified the basic system to suit their particular needs, and the resulting systems are sufficiently different from one another that special features developed on one version cannot be moved to the other without some programming changes.

All three systems are "good" systems, in the sense that their users are pleased with the way the systems operate and the products they produce. All three of them are compatible with the MARC bibliographic format and the cataloguing standards we follow in BCUC: AACR, LC, Dewey, NLM, and local classification systems: LC, Canadian, and NLM subject headings. Each of them has special features that make the system particularly attractive, such as WLN's highly developed quality control module, CLL's on-line product generation, and NL's authority control development.

On the other hand, not one of the three systems would be usable in the BCUC environment without some modification. WLN has not yet implemented its detailed holdings subsystem, although it has been coded and tested; CLL does not handle serial records; and NL has not yet begun regular card or COM production from its DOBIS files, although this is expected in early July. Considerable preparatory work has been done on all three systems in the areas noted, but the fact remains that if we bought any one of them it would require alterations before we could use it.

The decision as to which of the three systems would be best for BCUC from the cataloguer's point of view is not an easy one to make. We embarked on this study hoping that the information we collected would show us a winner, a clearly superior system. We looked at our results, and realized that the decision would have to be made on the basis of trade-offs; each of the systems has good features and bad features, and they are different features in each one. One of the trade-offs is that of current development vs. future potential. Much of the future for the system acquired by BCUC will depend on our own development work, although the preparatory work already done by the institution from which we acquire the system, and the system's present state of development, must be considered extremely important factors in the short run. We confess to being optimists, and unanimously select the National Library version of DOBIS, with the qualification that it will probably require more initial work than the others to bring it into production. NL DOBIS was our "gut reaction" choice, after seeing the three systems, and our initial impression was confirmed when we summarized the good and bad features of the systems for this report. With the assistance of Dr. Ralph Shoffner, we subjected our findings to a simple numeric weighting and scoring analysis; again NL DOBIS emerged the winner, although scores for both versions of DOBIS were very close.

D. EFFECT ON WORKFLOWS, STAFFING AND PRODUCTIVITY

We expected to find that DOBIS would alter existing workflows and staffing patterns considerably more than WLN. WLN is very similar to UTLAS in many respects.

On both WLN and UTLAS, original cataloguers have minimal interaction with the system at the terminal. Typically, for original input, the cataloguer writes or types a complete worksheet for the new record, and this data is keyed into the system by an input typist working at the terminal. DOBIS is set up so that the cataloguer works on-line, using the system as a sort of electronic worksheet. In WLN, the cataloguer consults the authority files on-line, but copies the headings found onto the worksheet for the input typist to re-key into the system when the new record is entered. DOBIS allows the cataloguer to capture headings found during the on-line authority search and use them in the record being created without either writing them down or re-keying them. Against this time-saving feature we must balance the fact that cataloguers do not normally have the typing speed of a terminal input operator.

There is only one institution that we know of in which the traditional worksheet input system was replaced by DOBIS: College Bibliocentre. Since this institution used UTLAS prior to implementing DOBIS, it is worthwhile to look at their experience in moving from the one system to the other. Some of Bibliocentre's cataloguers were unable to type when the change was accomplished, yet their productivity is now the same as it was on the old system. The number of cataloguers remained the same, and the data entry staff were eliminated from the original input operation. Derivative cataloguers work on-line in both the WLN/UTLAS-type system and in DOBIS, Bibliocentre found that productivity remained the same and work flow patterns were not affected. Added copies/volumes staff also work on-line in both types of systems. The added copies productivity increased under DOBIS.

We expected to find that the installation of DOBIS would change the traditional workflow patterns beyond recognition. Rumours were flying that with DOBIS it was necessary to sort the work according to the sequence of commands that would be used to catalogue it, e.g. grouping all the books with personal authors together. We were agreeably surprised to find that traditional workflows still practically unchanged at Bibliocentre:

1. Incoming books are searched against the database by the staff who add copies.
2. Added copies are identified and processed then and there; added volumes are routed to the more senior staff member who processes them.
3. New titles for which copy is found in the database go to derivative cataloguers for processing.
4. New titles for which copy is not found in the database are searched in the old card catalogue, NUC, and other printed bibliographies. If copy is found, it is entered in the database by a senior derivative cataloguer.
5. Titles for which no copy is found go to the original cataloguers.

The only major change from the traditional pattern was made to facilitate matching of products to books: all product-ordering is done by the on-line searcher/adders. This means that, for a new title, the cataloguer enters the record on the system or verifies that a record already there is an exact match, and then returns the book to the searcher/adders to have the holdings added and products ordered. Since the products are produced and processing of the book completed within a matter of hours at Bibliocentre, this appears to be a worthwhile change.

The levels of staffing for the different operations also remained unchanged. Original cataloguing and the difficult catalogue maintenance work (revisions and authority problems) are done by professionals. Derivative cataloguing is done by junior paraprofessionals with senior paraprofessionals handling the difficult ones, doing some of the easier catalogue maintenance work, and training. Initial on-line searching and added copies work is done by "clerks", who appear to be one step below the junior paraprofessionals in the hierarchy. Since none of the BCUC institutions receive book marking products from UTLAS, the staffing of the book processing area could be affected by the installation of DOBIS if these products were generated by the system. The marking staff would no longer type spine labels and book cards, but would still be required to match these products to the books and complete the physical processing. Having the system produce these products should eliminate the proofreading of the marking products beyond a simple check to be sure the book has received the correct processing kit.

Because WLN is so similar to UTLAS, installation of the WLN system would not affect our present workflows or staffing patterns. However, if we chose to follow WLN's policy of fully upgrading less-than-complete records found in the database before they can be used, that could affect the workload for the senior paraprofessionals and professionals in our establishments. (BCUC could adopt different policies from WLN if it wished to, although WLN would prefer that the systems remain compatible.) A network level review, such as that undertaken by WLN, would increase the workload on the professional staff, if it were implemented in the BCUC system. WLN's lack of provision for deriving related records from records already in the database will lead to increased input keying for the data entry staff. We would not expect productivity to increase with use of WLN; the on-line authority files would speed up authority checking, but there are a number of off-setting features which we discovered in our close examination of the system. These are detailed in the Results section of our report, and in our summary feature analysis below.

E. RETRAINING

WLN would require less retraining of staff than DOBIS, but either one would be less of a change than our previous transition from manual systems to UTLAS. The WLN displays are much more like UTLAS' than are the DOBIS displays, in that the full display shows the full bibliographic record with all its associated tags, codes, and indicators. WLN uses mnemonic tags rather than numeric, up to four indicators instead of two, and employs nesting of subfield codes, but is otherwise very similar to UTLAS. DOBIS displays no tags or indicators, and very few subfield codes. The bibliographic data are organized in a format that does not relate easily to a catalogue card, and it is impossible to see the full record all together on one screen. (We recommend that this display problem be solved before a DOBIS system is installed for BCUC). A brief display like CLL's would make adding of copies more efficient. The cataloguing approach on DOBIS is different from the traditional worksheet/catalogue card orientation; DOBIS deals with classes of entries, such as all names associated with a work, all titles, etc., rather than main entry, added entries, etc. The searching facilities on both systems are different from those on UTLAS. On-line authority work will be a new feature on both systems, and the quality control facilities are different also. WLN has a unique automated edit and review function. A full record display on DOBIS would minimize the quality control differences for that system. Documentation to assist planning and retraining is now available for WLN, and the National Library has made good progress in building up the documentation for its version of DOBIS.

F. SUMMARY OF MAJOR GOOD AND BAD FEATURES

1. WLN

Good:

- On-line authority access and excellent searching capabilities, including permuted subjects and Boolean operators, but excluding call numbers.
- Efficient input and edit functions.
- Diacritics are input as diacritics rather than equivalent characters.
- Thorough documentation.
- Highly developed quality control facilities: automated edits, special workfiles for review, and a network level review.
- "Waiting" file to catch incoming source records without re-searching.
- Ability to search both systems and local files simultaneously.
- Authorization levels improve data security.

Bad:

- The system cannot handle records for music, sound recordings, or maps.
- WLN has not loaded CANMARC, BNB MARC, or UTLAS records, nor LC, CANMARC or SHARAF authority records.
- It is not possible to copy data already in the system to build up records; this applies to related records for other editions, access points in the authority files, and interim records created in advance of the full bibliographic record.
- There is limited provision for local data, and that data is lost if a source file record replaces a record input by participants.
- Holdings can be recorded only to the branch location level, (but not with sublocations) i.e. whether a branch holds the title or not, with limited provision for serials holdings summaries. Specifications for detailed copy/volume holdings are coded and tested but are not yet implemented.
- There are limited product options, and no diacritics on COM outputs.
- Authorities system must be redeveloped (2-year project just begun). WLN plans to load LC source authority records at the end of 1980.
- Network review process can delay products.
- No call number access.

2. CLL DOBIS (BIBLIOCENTRE)

Good:

- Excellent command and prompt facilities, with provision for command chaining.
- On-line authority access and excellent searching capabilities, including call number but excluding the Boolean operators available on WLN.
- It is possible to copy related records to build on, capture access points without rekeying, and build on search arguments to create entries.
- Original input is done by the cataloguer, without an intervening data entry typist.
- Local files and detailed holdings can be accommodated.
- Default tables are set locally.
- There is provision for identifying new relationships between records.
- Authorization levels improve data security.

Bad:

- The serials functions have not been developed.
- The problem of source file updates has not been addressed.
- No Boolean searching available.
- There is no single screen display of the full bibliographic record.
- Diacritic input is even more cumbersome than on UTLAS.
- Local call numbers are stored in the system classification field, which is confusing for display on-line.
- Limited product options.
- Quality control is limited to a cursory check by the person doing the input work.
- The system is more different from UTLAS than WLN is, and will require more retraining of staff.

3. NL DOBIS (NL/CISTI)

Good:

- Excellent commands and prompts, with command chaining.
- On-line authority access and excellent searching capabilities, including call numbers (both system and local) but excluding Boolean operators.

- It is possible to copy related records to build on, capture access points, and build on search arguments to create entries.
- Original input by cataloguer without intervening data entry typist.
- Diacritics are defined on the keyboard of the terminals used by NL and can be input directly.
- There is a full range of local files for bibliographic data and access points.
- Default tables are set locally.
- The system can handle all types of classification, both at the system and local level, including different numbers for two copies of the same title in the same location; it will accept duplicate call numbers and indicate them in the display.
- Encoding and verification level codes are available to identify degrees of incompleteness and quality levels in records.
- There is provision for identifying new relationships between records.
- Authorization levels improve data security.

Bad:

- Source file updating procedures are still under development.
- No Boolean searching available, although its development is in the programming queue.
- It is not possible at present to display the full bibliographic record all together for checking. Quality control involves cumbersome retracing of input procedures.
- Products are still under development (expected mid-summer).
- It is more different from UTLAS than WLN is, and would require more retraining of staff.

G. CHANGES REQUIRED PRIOR TO IMPLEMENTATION

(A) = Essential changes
(B) = Nearly essential changes

1. WLN

Detailed holdings:

- (A) Implement detailed holdings module.

Displays:

- (A) Display all encoding levels in brief records.
- (A) Identify working file in all editing screens.
- (A) Display source of subject headings in brief records and index displays.
- (B) Display institution dependent headings and notes on-line to all users (requires a table change in the system)

Database:

- (A) Develop the formats for music, sound recordings, and maps.
- (A) Load CANMARC and BNB MARC.
- (A) Redevelop the authorities system to accomodate MARC authorities format (in progress)
- (A) Provide for batch loading of source authority records (LC MARC, CANMARC, SHARAF).
- (A) Develop loading of bibliographic source file updates without losing local data.

Editing:

- (A) Reduce redundant keying (Provide for copying of records for modification; copying of information within a record; and selecting existing access points without rekeying. Reconsider the need for an interim record; if needed, allow its information to be retained and built on). WLN is working on this and on-line validation (see below), and plans to make them available as options.
- (A) Develop on-line validation for authority control.

Searching:

- (B) Provide an on-line shelf list.

Products:

- (A) Include local information in local COM (Ray DeBuse says this is a high priority development for WLN, but is has not yet been scheduled).
- (A) Provide the full AIA print train for COM.

Quality control:

- (A) Work out a method of handling the network review step in the BCLN context. Considerations would include: How labour intensive must it be? Should we distribute responsibility? If so, to which libraries? How would reviewers be trained, and how would we ensure consistency in interpretation of policies? How should policies be developed? Should there be reimbursement for libraries carrying out network review?
- (B) Improve the system of notification of changes from source record updates.

2. CLL DOBIS (BIBLIOCENTRE)

Displays:

- (A) A cataloguer's screen, showing full information, including all coding for the bibliographic record and for access points linked to the bibliographic record, must be developed. The wordiness of DOBIS displays could make screen design a challenge.
- (A) Display verification and encoding levels in index displays.
- (A) Sort the short bibliographic entries listed under individual access points.
- (B) Display source of heading in subject heading index screen.
- (B) Provide an on-line shelf list.

Database:

- (A) Develop source record loading and updating facilities; decide on extent of human intervention in the matching and updating process.
- (A) Develop serials format.
- (A) Develop authorities loading facilities.

Quality control:

- (A) Develop verification levels and authorization levels for BCLN.
- (A) Work out a system for notifying users of changes from source record updates.

Editing:

- (A) On-line validation of authorities.
- (B) Improvement of input edits.

Statistics:

- (B) Develop a statistical package.

Searching:

- (A) Provide combined local and system level search.

Products:

- (A) Provide authority notes and references in COM.
- (A) Provide for printing a combination of local and system data.

Documentation:

- (A) Preparation of complete documentation.

3. NL DOBIS (NL/CISTI)

Displays:

- (A) A cataloguer's screen, showing full information, including all coding for the bibliographic record and for access points linked to the bibliographic record, must be developed. The wordiness of DOBIS displays could make screen design a challenge.
- (B) A short display screen suitable for adding copies would be a useful addition.
- (A) Display verification and encoding levels in index displays.
- (A) Sort the short bibliographic entries listed under individual access points.
- (B) Enhance call number index display to include bibliographic information.
- (B) Reorganize the holdings display by location.

Database:

- (A) Develop source record loading and updating facilities; decide on extent of human intervention in the matching and updating process.
- (A) Continue development of authorities loading facilites.

Quality Control:

- (A) Develop verification levels and authorization levels for BCLN.
- (A) Work out a system for notifying users of charges from source record updates.

Editing:

- (B) Improvement of input edits.

Statistics:

- (B) Develop a statistical package. (NL is currently using a resource accounting package)

Searching

- (A) Provide combined local and system level search.

Products:

- (A) Implement products, including further development of the provision for combination of local and system data.

H. CATALOGUING FEATURE ANALYSIS

	Total Points Available	UTLAS	WLN	Biblio-centre DOBIS	NL/CISTI DOBIS
1. Authority control					
A. Authority format and database	25	22	18	20	22
B. Validation of bibliographic input	50	50	25	40	40
C. Update of bibliographic records	50	50	35	35	40
D. Appearance in products	25	14	20	10	10
Total:	150	136	98	105	112
2. Batch services and products					
A. Cards	25	25	20	10	0*
B. Labels	10	10	10	10	0
C. COM	35	30	25	20	10
D. Magnetic tape (MARC communication format)	10	8	7	0	5
E. Paper listings	20	20	20	20	20
Total:	100	93	82	60	35
3. Searching and displays					
A. Access points available	45	25	40	41	41
B. Types of search available and search commands	30	15	27	24	24
C. Display formats	15	9	12	14	11
D. On-line time required for display	10	5	10	8	8
Total:	100	54	89	87	84
4. Cataloguing - System features					
A. Editing features	65	62	20	62	62
B. Prompts and error messages	10	4	9	10	10
C. Input/edit command structure	45	18	38	43	43
D. Record structure and display	25	25	25	20	18
E. Data input	15	7	12	10	12
F. Provision for working on-line	15	7	5	13	13
Total:	175	123	109	158	158
5. Cataloguing - Data features					
A. Provision for local variation	35	35	15	30	30
B. Classification	15	10	10	12	15
C. Detailed holdings	100	75	0**	70	70
Total:	150	120	25	112	115
6. Bibliographic record management and quality control					
A. Source file loaded	15	13	7	10	13
B. Source file updating provisions	15	8	12	6	6
C. MARC formats available	20	20	15	10	20

* Catalogue cards were produced, on schedule, in early July, but this evaluation reflects the system as we saw it in June.

** The system now support branch locations; full detailed holdings facilities are tested but not yet implemented.

H. CATALOGUING FEATURE ANALYSIS (CONT)

	Total Points Available	UTLAS	WLN	Biblio-centre DOBIS	NL/CISTI DOBIS
6. Bibliographic record management and quality control (cont)					
D. Mechanism to identify incomplete records.	10	7	8	8	7
E. Features to assist quality control	10	2	10	5	5
F. Record size limitations	5	3	3	5	5
Total:	75	53	55	44	56
7. Printed user instructions and documentation					
A. Documentation available	20	10	15	0	13
B. Ease of use	5	2	5	0	3
C. Updating	10	4	6	0	6
D. Training aids available	5	2	3	2	3
Total:	40	18	29	2	25
Grand totals:	790	597	487	568	585

With the programming changes that Ringgold Management Systems has included in the larger-scope study of the systems, additional points could be awarded in the categories shown below:

	UTLAS	WLN	CLL DOBIS	NL DOBIS
1. Authority control				
A. Format and database		7	5	3
B. Validation of bibliographic input		25	10	
D. Appearance in products			4	4
2. Batch services and products				
A. Cards			15	25
C. COM			10	20
D. Magnetic tape		3	10	5
3. Searching and displays				
A. Access points available		1		
B. Types of search available and search commands			6	6
C. Display formats		3	1	4
4. Cataloguing - System features				
A. Editing features		40		
D. Record structure and display			5	7
E. Data Input			2	
5. Cataloguing - Data features				
A. Provision for local variation		5	5	5
C. Detailed holdings		70		
6. Bibliographic record management and quality control				
A. Source files loaded		6	3	
B. Source file updating provisions		3	9	9
E. Features to assist quality control		___	5	5
Total extra points:		163	90	93
Previously awarded:	597	487	568	585
Adjusted totals:	597	650	658	678

V. ANALYSIS OF IMPLEMENTATION REQUIREMENTS

A. OVERVIEW

1. Procedure

In order properly to compare the replication of the alternative systems, WLN or one of the DOBIS versions, it is necessary to implement these systems with reasonably comparable performance characteristics. The work necessary to achieve this was defined and the amount of effort to accomplish this work was estimated. The effort estimate was converted into a cost projection and incorporated into the overall cost analysis so that the resulting costs could be compared.

It is necessary to make changes to either system in order to make a ready transfer of operations from the UTLAS system. Further, since the DOBIS versions scored lower than the WLN system in the features analysis, the DOBIS versions were reviewed in order to determine the features that would need to be added in order to achieve a rough comparability with WLN. Since the initial cost projection indicated that the on-going costs of the DOBIS system would be lower than for the WLN system, the principal issue was whether the additional development of the DOBIS system would outweigh the operating advantage.

This approach somewhat penalizes the DOBIS versions, since the focus is upon providing features that they lack without attempting to augment the WLN system with all features that the DOBIS system has. The result may be that the DOBIS versions, once augmented will have features which are superior to the WLN system but also have a cost which is greater. In this event, the implementation procedure would have reversed the initial condition. Should that occur, it would be necessary to identify all features changes which are important to the BCLN membership and then to estimate the effort necessary to bring each of the systems into conformance. However, this should be considered necessary only in the event that making the changes to DOBIS in fact changes the cost relationships to make DOBIS more expensive than WLN.

2. Summary Results

The tasks to improve the DOBIS and WLN systems are divided into four categories: those to be performed during implmentation; those which may be performed either during or immediately following implementation; those to be performed immediately following implementation; and those which may be performed subsequently. Tasks in the last category did not receive effort estimates, while those in the first three categories did. The resulting effort estimates are as follows:

	Person-Hours Required For:			
	WLN	NL/ CISTI	BIBLIO- CENTRE	IBM
a. During Implementation				
Administration	130	130	130	130
Marketing/Library Support	730	980	980	980
Data Processing	1564	1614	1364	1604
Subtotal	2424	2724	2474	2714
b. During or After Implementation				
Data Processing	30	240	220	250
c. After Implementation				
Data Processing	140	440	440	440
d. Totals				
Administration	130	130	130	130
Marketing/Library Support	730	980	980	980
Data Processing	1734	2294	2024	2294
Grand Total	2594	3404	3134	3404

The critical path analysis, computed on the assumption that the necessary resources would be available on the schedule needed during implementation, resulted in the following number of calendar months for the Implementation Phase:

a. WLN Implementation 14 - 20 months

b. DOBIS Implementation (all versions) 13 - 19 months

B. COMPARISON OF DOBIS AND WLN IMPLEMENTATION REQUIREMENTS

The modifications and enhancements which are needed for WLN and each of the DOBIS versions are listed in Figure 9. This figure is divided into four sections:

A. Tasks Required For Implementation Phase. The results of thses tasks are needed before the systems can be put into operation for the BCLN libraries.

B. Tasks Which May Be Performed Either During Implementation Or During Operation. The results of these tasks should be provided at an early time, but they are not needed immediately in order to begin operations.

C. Potential Modifications During Operations. The results of these tasks provide features that the system should have, but which are not necessary to provide operational services.

D. Potential Enhancements During Operations. These tasks represent extensions of the system capabilities which are not necessary to begin operations and they are the same for all versions of DOBIS and for WLN.

For each task in the first three groups (A-C), the systems which must have the task performed are identified, the amount of effort (in person-hours) is estimated for each and the amount of calendar time is estimated (minimum period, one month).

These estimates are then used to develop the contingency relations and the critical paths which define the minimum time required to implement the systems and the staffing levels required to accomplish the implementation. The task dependency diagrams are shown in Figures 10-13, for WLN, NL/CISTI, Bibliocentre and IBM respectively.

FIGURE 9

MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN

	TIME EST. (PERSON HRS.) FOR SYSTEM				ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
	WLN	NLC	BIB	IBM		
A. Tasks Required for Implementation Phase:						
1A. Negotiate contract with computer facility.	10	10	10	10	1 - 2	Admin.
1B. Negotiate contracts with UTLAS, IBM, Bibliocentre, NLC or WLN	40	40	40	40	1	Admin.
2. Hire & train BCUC staff for replication	80	80	80	80	9 - 12	Admin.
3. Acquire any additional hardware needed for the BCUC computer site.	10	10	10	10	2 - 9	DP
4. Arrange to use other hardware for pilot operation until BC site is ready.	16	16	16	16	1 - 2	DP
5. Acquire terminals, modems, telephone contention units, telephone units.	5	5	5	5	6 - 9	DP
6. Order & install additional system software necessary to run WLN or DOBIS, e.g., CICS & ADABAS.	50	30	30	30	5	DP
7A. Load & test WLN software components in BCUC computer site.	240	--	--	--	2 - 3	DP
7B. Load & test DOBIS software with the assistance of Bibliocentre.	--	160	160	160	1 - 2	DP
8. Computer staff training - CICS, ADABAS, WLN (send BC staff to Pullman for WLN training).	160	120	120	120	1 - 2	DP
9. Possible modification of 370X terminals for the MARC char set.	120	120	120	120	1 - 2	DP
10. Possible modification of 370X Communications Controller to handle Haseltine terminals .	20	20	20	20	1	DP

FIGURE 9 (CON'T)

	MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN	TIME EST. (PERSON HRS.) FOR SYSTEM WLN	NLC	BIB	IBM	ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
11.	Implement the new multi-threaded version of ADABAS.	60	--	--	--	1	DP
12.	Implement CICS-VS & (possibly) modify CICS to handle Haseltine terminals as done by WLN.	20	--	--	--	1	DP
13.	Remote job entry setups for standard WLN batch jobs.	60	--	--	--	1 - 2	DP
14.	General jobstream mtce of WLN programs.	60	--	--	--	-	DP
15.	Monitor job & program execution (Task 13 - 15 constitute implementation of a replacement for WYLBUR or enhancement of standard version of WYLBUR).	40	--	--	--	1 - 2	DP
16.	Change record routing tables to eliminate mandatory final manual review of record and subsequent release prior to inclusion into the bibliographic data base.	8	--	--	--	1	DP
17A.	Load WLN bibliographic records.	10	--	--	--	1	DP
17B.	Load NLC bibliographic records.	--	10	--	--	1	DP
17C.	Load BIB bibliographic records.	--	--	10	--	1	DP
18A.	Load CAN MARC & BCUC/UTLAS.	20	--	--	--	1 - 2	DP
18B.	Load BCUC/UTLAS.	--	10	10	--	1	DP
18C.	Load LC MARC, CAN MARC & BCUC/UTLAS.	--	--	--	120	1 - 2	DP
19.	Ability to add NLC, LC & SHARAF authority subscription tapes in batch mode.	80	80	80	80	1	DP
20.	Enhance the authority record structure to include LC authorities data fields, such as source of heading in code form, AACR2 indicators, etc.	80	--	80	80	1	DP

FIGURE 9 (CON'T)

MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN

	TIME EST. (PERSON HRS.) FOR SYSTEM				ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
	WLN	NLC	BIB	IBM		
21. Enhance authority control programs to automatically check for exclusion or modification of headings.	20	--	20	20	1	DP
22. Batch load authority records from NLC, LC, SHARAF.	40	40	40	40	1	DP
23. Mechanism to identify duplicates between incoming BCUC/UTLAS records with holdings & records already residing on the system data base.	20	80	40	80	1 - 2	DP
24. Mechanism to detect duplicates among incoming authoritative (or resource) records as new or changed and records already residing on the system data base.	40	40	40	40	1 - 2	DP
25. Load the CONSER files.	--	--	40	40	1	DP
26. Obtain copy of UTLAS/BCUC files.	5	5	5	5	3 - 6	DP
27. Ability to load LC MARC & CAN MARC as well as data base records from other networks, such as UTLAS, OCLC, RLIN & WLN.	20	--	--	60	1 - 2	DP
28. Modify the acquisitions programs to handle foreign currency conversions.	40	--	--	--	1	DP
29. Modifications to the LIBIS software to work with NL/CISTI.	--	220	--	--	3 - 4	DP

FIGURE 9 (CON'T)

MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN

	TIME EST. (PERSON HRS.) FOR SYSTEM				ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
	WLN	NLC	BIB	IBM		
30. Set up bibliographic review unit & procedures.	120	120	120	120	2	MKT/LIB SUPPORT
31. Begin manual review by bibliographic review group of BCUC/UTLAS records, both bibliographic & authority headings.	360	360	360	360	2 - 3	MKT/LIB SUPPORT
32. Reprofile pilot libraries.	30	30	30	30	1	MKT/LIB SUP.
33. Check & test replicated system with pilot libraries before leaving UTLAS completely.	--	--	--	--	3 - 4	MKT/LIB SUP.
34. Reprofile other BCUC libs.	60	60	60	60	3 - 4	MKT/LIB SUP.
35. Begin pilot with libraries using facilities of the source institution.	--	--	--	--	--	--
36. Monitor pilot operation to determine operating results, documentation needs, training needs, system enhancement needs.	112	112	112	112	--	MKT/LIB SUP.
37. Produce monthly reports summarizing the operating results of the system.	48	48	48	48	--	MKT/LIB SUP.
38. Improve backup & restore.	--	60	--	--	1	DP
39. Assist member libraries in rethinking their work-flow & staff requirements for DOBIS.	--	250	250	250	3 - 4	MKT/LIB SUP.
40. Charging mechanism for network customers (DOBIS)	60	80	80	80	1 - 2	DP
41. Addition of call number to union holdings screen.	--	8	8	8	1	DP
42. Create a new record list for manual quality control review.	--	40	40	40	1 - 2	DP
43. Enhance card catalogue options to level of UTLAS.	--	40	40	40	1	DP

FIGURE 9 (CON'T)

MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN	TIME EST. (PERSON HRS.) FOR SYSTEM WLN	NLC	BIB	IBM	ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
44. Enhance union catalogue options, including the capability to display the entire BCUC file in microform.	--	20	20	20	1	DP
45. Develop bridge between NLC DOBIS & NLC cataloging batch products.	--	30	--	--	1	DP
46. Retrieval for COM catalogue generation.	--	80	80	80	1 - 2	DP
47. Ability to overlay system information with loal information for display or output products	--	40	40	40	1	DP
48. Display of MARC tags and indicators on the cataloging input and editing screen.	--	140	140	140	1 - 2	DP
49. Display screen for added copy transaction.	--	40	--	40	1	DP
50. Capability to use an existing record to create a new record, e.g., for a new edition	40	--	--	--	1	DP
51. Ability to copy selected data into a new record, e.g., access points	40	--	--	--	1	DP
52. Provide index for local call # access	40	--	--	--	1	DP
53. Provide call number index display with ability to display Cuttering and truncated main entry data	20	20	20	20	1	DP
54. Provide detail holdings	80	--	--	--	1	DP
55. Provide local linking numbers in data content of records	40	40	40	40	1	DP
56. Output product sorting	--	10	10	10	1	DP
SUBTOTAL, ADMINISTRATION	130	130	130	130		ADMIN.
SUBTOTAL, MKTG/LIBRARY SUPPORT	730	980	980	980		MKT/LIB SUPPORT
SUBTOTAL, DATA PROCESSING	1564	1614	1364	1604		DP

FIGURE 9 (CON'T)

MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN	TIME EST. (PERSON HRS.) FOR SYSTEM				ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
	WLN	NLC	BIB	IBM		
B. Task Which May Be Performed Either During Implementation Or During Operation.						
1. Ability to search both system and local files at the same time.	--	120	120	120	1 - 2	DP
2. Enhance COM catalog options to match those of UTLAS:						
A. Display of cross references & eliminate blind references.	--	--	10	10	1	DP
B. Other display formats.	30	30	30	30	1	DP
3. Edit checking between data fields at the time of creating new records.	--	60	60	60	1	DP
4. Mechanism to match batch request records against the system data base.	--	30	--	30	1 - 2	DP
SUBTOTAL, DATA PROCESSING	30	240	220	250		

FIGURE 9 (CON'T)

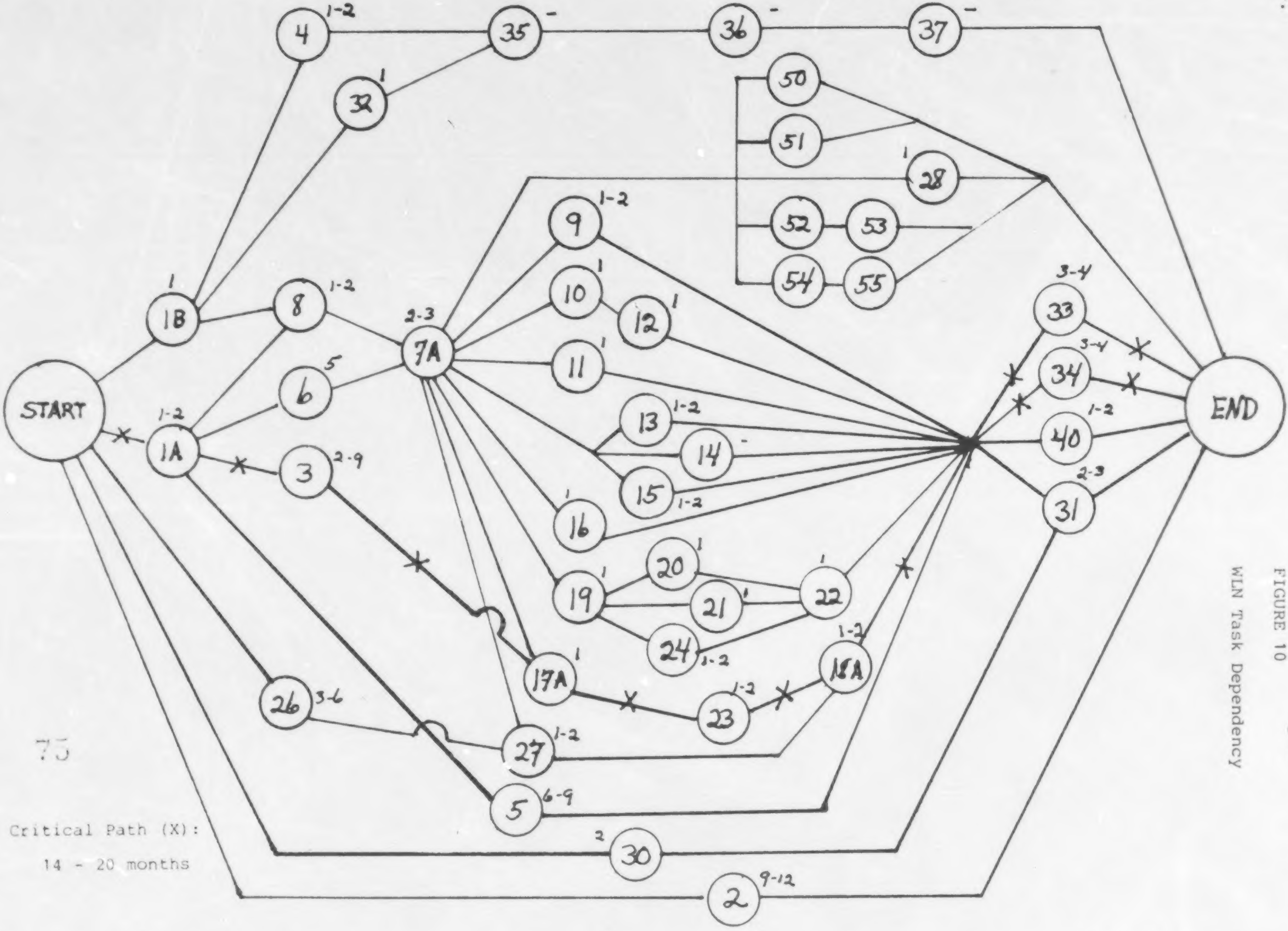
MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN

	TIME EST. (PERSON HRS.) FOR SYSTEM				ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
	WLN	NLC	BIB	IBM		
C. Potential Modifications During Operation.						
1. Ability to generate LC MARC or CAN MARC records for inclusion in other networks, such as UTLAS, OCLC, RLIN, WLN, or to supply individual libraries.	20	120	120	120	1 - 2	DP
2. Boolean searching within an access point files, with successive search refinement capability.	--	160	160	160	2 - 3	DP
3. Development of management reports from the acquisition system, either customized for individual libraries, or generalized for all.	60	60	60	60	1	DP
4. Modify the acquisitions programs to block over-encumbering at pre-set percentages.	20	--	--	--	1	DP
5. Modify acquisitions programs to allow searching of the vendor file directly.	40	--	--	--	1	DP
6. Alphabetize entries on the short information screen.	--	20	20	20	1	DP
7. Permutation & truncation of subject headings access data fields.	--	40	40	40	1	DP
8. Display choices hits, e.g., full, summary brief	--	40	40	40	1	DP
SUBTOTAL, DATA PROCESSING	140	446	440	440		

FIGURE 9 (CON'T)

MODIFICATION AND ENHANCEMENT FOR DOBIS AND WLN

	TIME EST. (PERSON HRS.) FOR SYSTEM				ELAPSED TIME (CALENDAR MOS)	RESPONSIBLE GROUP
	WLN	NLC	BIB	IBM		
D. Potential Enhancements During Operation (Effort Not Estimated)						
1. Ability to communicate with on-line search networks, such as Lockheed, SDC, etc.	X	X	X	X		
2. Modify the acquisitions programs to streamline order input, to group orders by vendor as an option, to print orders remotely at the library, to generate purchase order tapes to suppliers directly, or to communicate directly with suppliers.	X	X	X	X		
3. Effective incorporation of slave printers as a user option.	X	X	X	X		
4. Improve error messages.	X	X	X	X		
5. Purge program to delete MARC records that have no holdings information from the system data base.	X	X	X	X		
6. Add inter-library loan message forwarding module.	X	X	X	X		
7. Modify search for use by the general public.	X					
8. Develop serials control module.	X	X	X	X		
9. Develop mainframe - mini communications for circulation, acquisitions, and other distributed systems.	X					
TOTAL, DATA PROCESSING	1734	2294	2024	2294		
GRAND TOTAL	2594	3404	3134	3404		

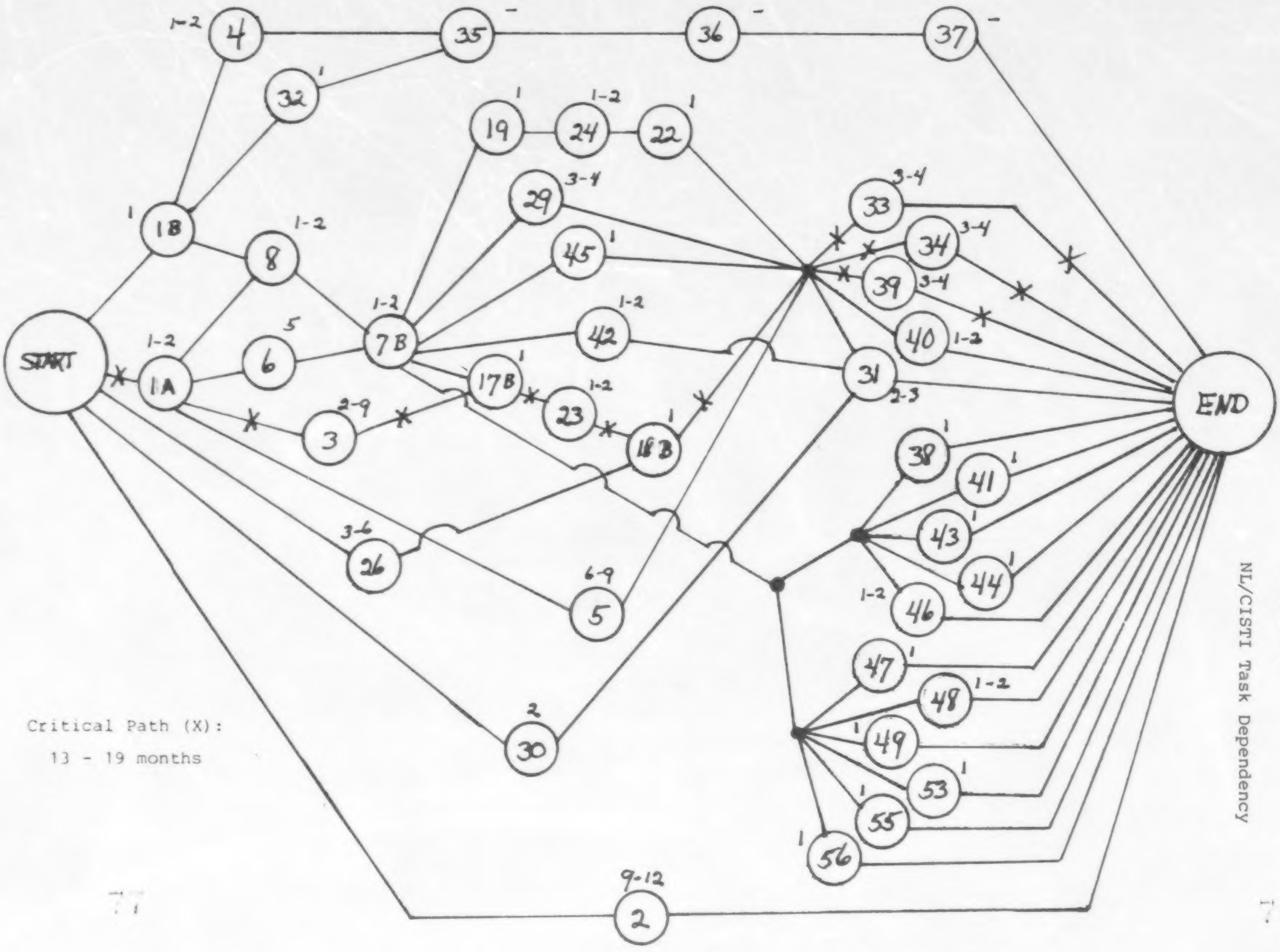

START
1B 1
1A 1-2
4 1-2
32 1
35 -
36 -
37 -
50
51
28 1
52
53
54
55
8 1-2
6 5
3 2-9
7A 2-3
9 1-2
10 1
12 1
11 1
13 1-2
14 -
15 1-2
16 1
19 1
20 1
21 1
22 1
24 1-2
17A 1
23 1-2
18A 1-2
26 3-6
27 1-2
5 6-9
30 2
2 9-12
33 3-4
34 3-4
40 1-2
31 2-3
END

Critical Path (X):

14 - 20 months

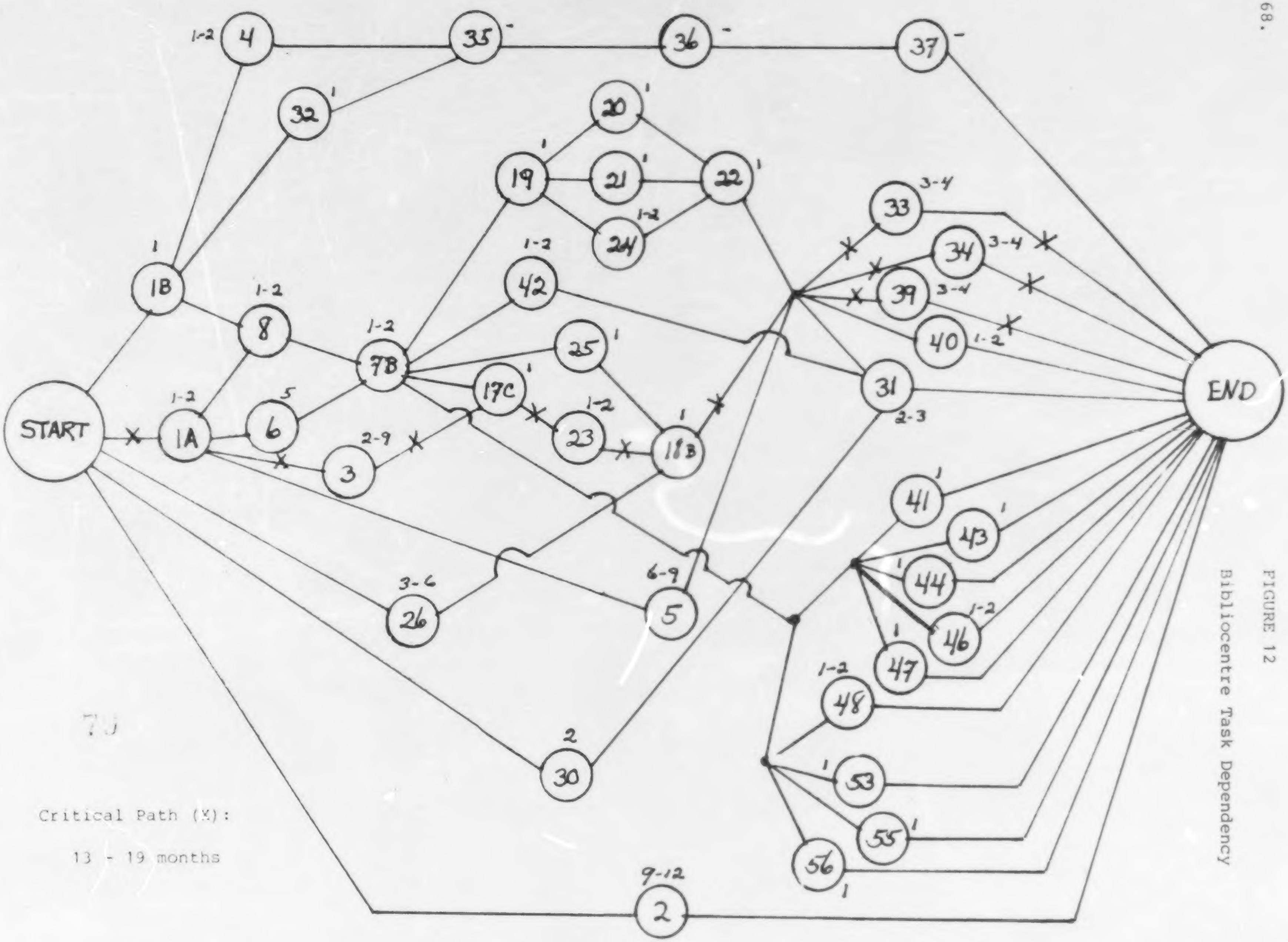
FIGURE 10

WLN Task Dependency


START
1B 1
1A 1-2
4 1-2
32 1
35 -
36 -
37 -
8 1-2
6 5
3 2-9
7B 1-2
19 1
24 1-2
22 1
29 3-4
45 1
42 1-2
17B 1
23 1-2
18B 1
26 3-6
5 6-9
30 2
2 9-12
33 3-4
34 3-4
39 3-4
40 1-2
31 2-3
38 1
41 1
43 1
44 1
46 1-2
47 1
48 1-2
49 1
53 1
55 1
56 1
END

Critical Path (X):
13 - 19 months

FIGURE 11
NL/CISTI Task Dependency

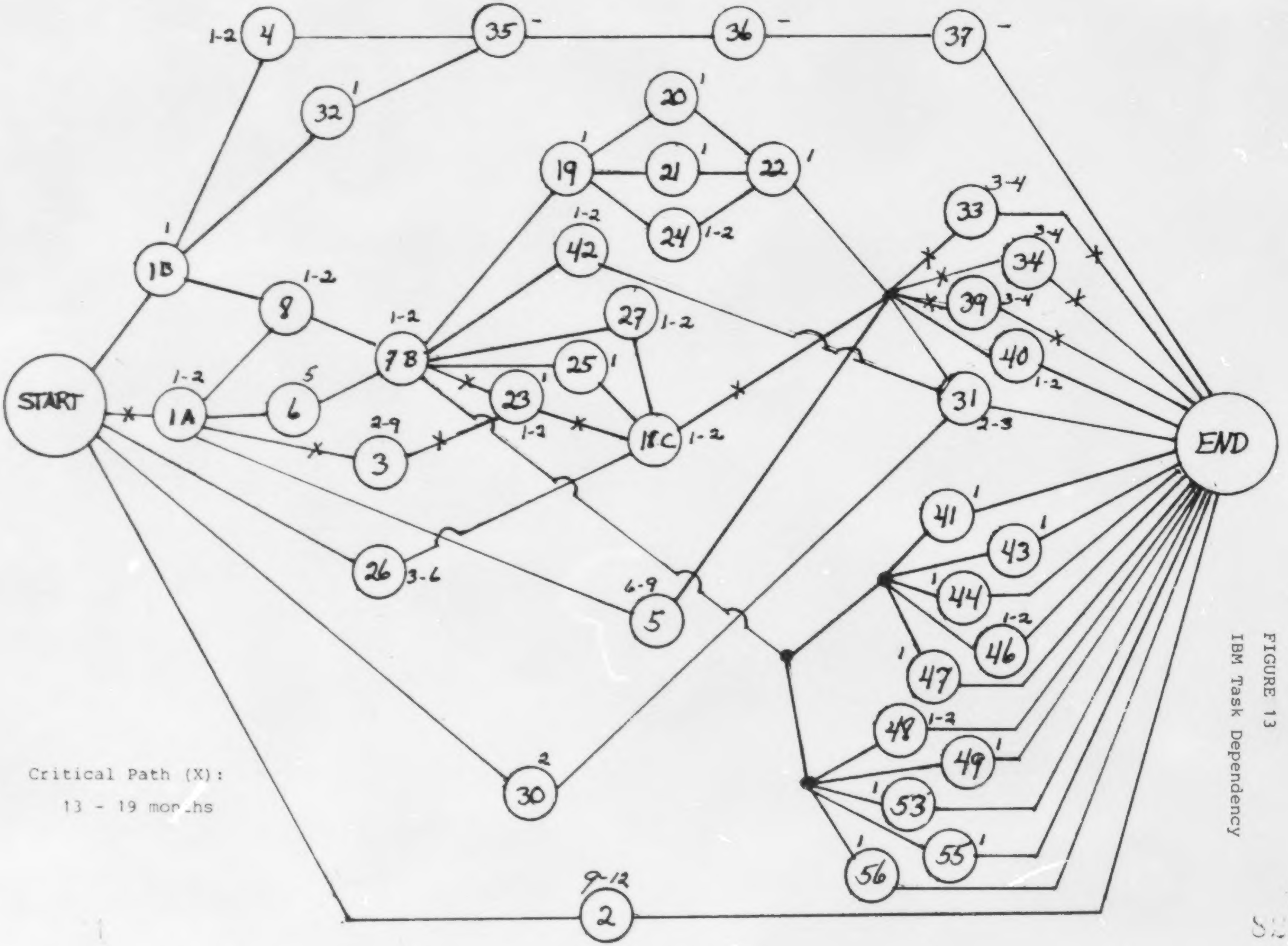

START
1A
1-2
1B
1
4
1-2
32
1
35
-
36
-
37
-
8
1-2
6
5
3
2-9
7B
1-2
19
1
20
1
21
1
24
1-2
22
1
42
1-2
25
1
17C
1
23
1-2
18B
1
33
3-4
34
3-4
39
3-4
40
1-2
31
2-3
END
41
1
43
1
44
1
46
1-2
47
1
48
1-2
53
1
55
1
56
1
26
3-6
5
6-9
30
2
2
9-12

Critical Path (X):

13 - 19 months

FIGURE 12

Bibliocentre Task Dependency


START
END
1A 1-2
1B 1
2 9-12
3 2-9
4 1-2
5 6-9
6 5
7B 1-2
8 1-2
18C 1-2
19 1
20 1
21 1
22 1
23 1 1-2
24 1-2
25 1
26 3-6
27 1-2
30 2
31 2-3
32 1
33 3-4
34 3-4
35 -
36 -
37 -
39 3-4
40 1-2
41 1
42 1-2
43 1
44 1
46 1-2
47 1
48 1-2
49 1
53 1
55 1
56 1

Critical Path (X):
13 - 19 months

FIGURE 13
IBM Task Dependency

VI. ANALYSIS OF OPERATING COSTS

A. OVERVIEW

1. Procedure

In order to compare the costs of a replicated WLN facility with those of a replicated DOBIS facility, it is necessary to project these costs on a comparable basis. In the Feasibility Substudy the WLN costs were projected for comparison with UTLAS. Both the method used to construct the WLN costs and the WLN costs from that report were used in the present comparison. The WLN costs were taken directly and comparable DOBIS figures were constructed. In particular the DOBIS cost determination procedure involved:

1. Contact with IBM, Bibliocentre, and the National Library of Canada to determine the computer configuration and staffing requirements for a replicated facility.
2. Contact with IBM to establish costs of equipment necessary to run DOBIS.
3. Establishment of computer configuration and costs. Two sets of estimates were made, one for the use of the system to support cataloguing only, the other to support all applications, cataloguing, acquisitions and interlibrary loan. For each set, a high and a low estimate of the equipment costs was made - the former based upon new IBM equipment; the latter, on IBM-compatible or used equipment. In all cases, it was assumed that the computer configuration would be an independent facility, not shared with any other activity.
4. Estimation of communications costs to support cataloguing and extended services.
5. Definition and estimation of the costs of the organization and staff necessary to operate the computer facility and the network office.

6. Definition of the work necessary to implement a replicated DOBIS facility.
7. Projection of the timing of the implementation and the build-up of network staff.
8. Estimation of the implementation costs of a replicated DOBIS facility.
9. Distribution of the start-up costs to the operation of the replicated facility. This was done using five years for equipment and software and ten years of amortization for all other costs, each category with an interest rate of 14%.

All cost information was gathered based upon late 1979 prices of equipment, staff and services. No attempt was made to extend these costs to reflect possible future inflation rates and its differential effect upon equipment and staff costs. In effect, this represents an assumption that the costs of WLN and DOBIS are equally subject to inflationary pressures.

2. Results

a. Replicated DOBIS Facility

Annual operating costs, including amortization of all start-up costs of the facility on the assumption that an educational and research allowance will exclude import duty and federal taxes, are as follows:

	Low Estimate	High Estimate
1. Cataloguing only, with authority control		
Personnel costs	$ 743,000	$ 743,000
Amortized start-up costs	513,000	653,000
Other operating costs	491,000	521,000
TOTAL - CURRENT PARTICIPANTS	$ 1,747,000	$1,917,000
TOTAL with additional participants	$ 1,759,000	$1,931,000

	Low Estimate	High Estimate
2. All applications except circulation		
Personnel costs	$ 844,000	$ 844,000
Amortized start-up costs	612,000	783,000
Other operating costs	651,000	675,000
TOTAL - CURRENT PARTICIPANTS	$2,107,000	$2,302,000
TOTAL with additional participants	$2,144,000	$2,339,000

b. Replicated WLN Facility

Annual operating costs, including amortization of all start-up costs of the facility on the assumption of an educational and research allowance to bypass import duty and federal taxes, are as follows:

	Low Estimate	High Estimate
1. Cataloguing only, with authority control		
B.C. Central personnel costs	$ 788,000	$ 788,000
Amortization of start-up costs	608,000	737,000
Other operating costs	509,000	541,000
TOTAL - CURRENT PARTICIPANTS	$1,905,000	$2,066,000
TOTAL with additional participants	$1,919,000	$2,080,000
2. All applications - cataloguing with authority control, acquisitions, interlibrary loan		
B.C. Central personnel costs	$ 889,000	$ 889,000
Amortization of start-up costs	698,000	860,000
Other operating costs	669,000	695,000
TOTAL - CURRENT PARTICIPANTS	$2,256,000	$2,444,000
TOTAL with additional participants	$2,293,000	$2,481,000

B. DOBIS COSTS FOR A REPLICATED FACILITY

1. Equipment

Contact with IBM indicated that the computer system configured for a replicated DOBIS system is similar to that for a replicated WLN system.

The principal area of possible difference is the number of terminals that may be required to support cataloguing, due to the differences in the approach and processing times of the two systems. So far as could be determined, however, there is not enough difference in the terminal time requirements to make a difference in the number of terminals from the one system to the other. Therefore, we decided to use the same equipment configuration for both the DOBIS and the [illegible] systems. The equipment configuration is found in Appendix [illegible] as it was originally produced in the Feasibility Substudy. Its costs are summarized as follows:

DOBIS REPLICATED FACILITY
EQUIPMENT COSTS

	Low Purchase	Monthly Maintenance	High Purchase	Monthly Maintenance
Cataloguing only	$ 874	$23.6	$1,261	$19.9
Cataloguing, Acquisition, Interlibrary loan	$1,143	$34.8	$1,644	$31.0

2. Personnel

A personnel projection was made of the number and kinds of staff needed for a DOBIS based operation. Figure 14, details the staffing level. The differences within the WLN replicated facility is in the Data Processing Staff. Fewer staff are projected as necessary to implement and run DOBIS than are WLN.

The following are the staff reductions:

	Cataloguing only		All Applications	
	FTE	COST	FTE	COST
Data Base Mgr./ Analyst	1	$24,000	1	$24,000
Tape Librarian	1	14,000	1	14,000
Subtotal		$38,000		$38,000
Fringe Benefits (20%)		7,600		7,600
Total		$45,000		$45,000

FIGURE 14

PERSONNEL PROJECTION
FOR OPERATION OF
BC LIBRARY NETWORK
(REPLICATED DOBIS FACILITY)
(In 1979 Canadian dollars)

GROUP AND POSITION			CATALOGING ONLY				ALL APPLICATIONS	
			FTE	COST			FTE	COST
Administrative								
Director			1	$ 42,000			1	$ 42,000
Assistant to the Director			1	28,000			1	28,000
Adm. Services Manager			1	15,000			1	15,000
Switchbd. & Mail Dist.			1	11,000			1	11,000
Secretarial			3	36,000			2	36,000
Subtotal, Administrative			7	$132,000*			7	$132,000*
Planning & Finance								
Manager			1	$ 30,000			1	$ 30,000
Accountant			1	15,000			1	15,000
Bookkeeping & Purch. Clerk			1	11,000			1	11,000
Subtotal, Planning & Finance			3	$ 56,000*			3	$ 56,000*
Marketing, Lib. Support & Data Base								
Manager			1	$ 30,000			1	$ 30,000
Lib. Rep. & Trouble Desk			2	44,000			3	66,000
Duplicate Control			1	16,000			1	16,000
Authority Control			3	66,000			3	66,000
Subtotal, Mktg., Lib. Suppt.			7	$156,000*			8	$178,000*
Data Processing	B	D			B	D		
Manager	1	-	1	$ 35,000	1	-	1	$ 35,000
Analyst & Pgm. Manager	-	1	1	27,000	-	1	1	27,000
Systems & Telecom. Pgmr.	1	-	1	26,000	1	-	1	26,000
Database Mgr./Analyst	-	-	-	--	-	-		--
Systems Analysts	-	1	1	23,000	-	2	2	46,000
Applications Pgmr.	1	3	4	84,000	2	3	5	105,000
Technical Writer	-	-	-	--	-	1	1	18,000
Terminal Maintenance	1	0	1	16,000	1	0	1	16,000
Computer Operator	3	-	3	48,000	3	-	3	48,000
Tape Librarian	-	-	-	--	-	-	-	--
Scheduling Clerk	1	-	1	16,000	1	-	1	16,000
Subtotal, Data Processing	8	5	13	$275,000*	9	7	16	$337,000*
TOTAL DIRECT			30	$619,000			34	$703,000
FRINGE BENEFITS				$124,000				$141,000
GRAND TOTAL			30	$743,000			34	$844,000

NOTE: B and D represent the allocation of d.p. personnel to Basic support of the system and Development support for Implementation Group D tasks. The latter is staffed at the same level as for WLN.

3. Implementation

The work to implement the DOBIS system within British Columbia has been delineated and time estimates have been associated with the tasks in Section V. The time to implement DOBIS is eighteen months. At the end of the implementation period, BCLN will have completed the process of transferring all member libraries from UTLAS to the replicated facility. A summary of the start-up costs, both Design and Implementation, is shown in Figure 15. This information is summarized from the more detailed start-up costs shown in Figure 16. Separate costs are shown for each of the three DOBIS versions. While most of the implementation costs are considered to be the same, there are differences in the cost of the software and in the data base preparation. From one version to another, there are also differences in the nature of the work performed by the data processing staff. These differences, however, cause relatively minor differences in the total staff effort. Indeed, the differences could be less than the overall error in estimating the staff effort. As a result, the staffing costs projected are the same for all three versions of the system. These staff requirements are shown in Figure 17, divided into three six month periods of the Implementation Phase.

Figure 18 shows the costs of the computer equipment to be added during the Implementation Phase, based upon their amortized costs. A faster rate of addition of equipment is projected for the DOBIS system than for WLN. Analysis of the dependence diagrams shown in Section V indicates that a large amount of the Implementation effort is possibly discretionary, in that production operations could be started before all of the work were completed, if the equipment were on hand and if the BCLN chose to follow this route. Therefore, we have increased the rate of addition of the equipment in order to support this possibility.

FIGURE 15

SUMMARY OF START UP COSTS
B.C. LIBRARY NETWORK
IMPORT DUTY AND FEDERAL TAXES WAIVED
(In thousands of 1979 Canadian dollars)
DOBIS

	Cataloguing only		All applications	
	Low	High	Low	High
A. NLC Version				
Design	$ 130	$ 175	$ 150	$ 200
Equipment & Software	893	1,280	1,193	1,694
Other Implementation	1,293	1,437	1,368	1,508
TOTAL, NLC	$2,316	$2,892	$2,711	$3,402
B. Bibliocentre Version				
Design	$ 130	$ 175	$ 150	$ 200
Equipment & Software	933	1,320	1,233	1,734
Other Implementation	1,293	1,437	1,368	1,508
TOTAL, Bibliocentre	$2,356	$2,932	$2,751	$3,442
C. IBM Version				
Design	$ 130	$ 175	$ 150	$ 200
Equipment & Software	930	1,317	1,199	1,700
Other Implementation	1,398	1,542	1,473	1,613
TOTAL, IBM	$2,458	$3,034	$2,822	$3,515

FIGURE 16

START UP COSTS
B.C. LIBRARY NETWORK
IMPORT DUTY AND FEDERAL TAXES WAIVED
(In thousands of 1979 Canadian dollars)
DOBIS

	Cataloging only		All applications	
	Low	High	Low	High
I. Costs Common to All Versions				
Design Phase (6 months)	$ 130	$ 175	$ 150	$ 200
Implementation Phase (18 months)				
Computer Equipment (*1)	874	1,261	1,143	1,644
Personnel (18 months)	754	754	754	754
BCUC/UTLAS Data Base Purchase	40	60	40	60
BCUC/UTLAS Data Base Setup	30	50	30	50
Data Processing Supplies	50	75	50	75
Maintenance				
Central computer	81	54	81	54
Communications (inc. lines & modems)				
limited system (6 months)	15	12	17	15
full system (3 months)	55	49	88	82
Software				
IBM (18 months)	48	48	48	48
Space & Utilities	90	150	90	150
Office Supplies, Tel & Tel, etc.	60	80	75	90
Travel	30	45	45	60
Professional Fees	40	60	50	70
SUB TOTAL, COMMON COSTS	$2,297	$2,873	$2,661	$3,352
II. Costs Dependent Upon Version				
A. NLC Version DOBIS/LIBIS Software	19	19	50	50
B. Bibliocentre Version DOBIS/LIBIS	59	59	90	90
C. IBM Version				
DOBIS/LIBIS (*2)	56	56	56	56
MARC DataBase	105	105	105	105
Subtotal, IBM	161	161	161	161

(*1) As indicated by the IBM representative, the equipment costs are reduced by 16% to account for the elimination of duty and federal tax requirements dues to educational and research purposes.

(*2) The entire software package is obtained in order to provide batch output for the cataloging operations.

Figure 19 shows the other costs associated with the implementation of the DOBIS versions. Note that this figure is divided into two parts, the first allocated to costs common to all versions and the second allocated to costs which are different for each version. In general these costs are comparable to those for WLN; however, they differ in detail. For example, fewer data processing supplies are needed for the DOBIS versions because of reduced dependence upon batch processing backup operations. On the other hand, office supplies, travel and professional fees are higher due to the greater distance to a DOBIS installation and the larger number of system modifications being made. Finally, there is a new category of cost, BCUC/UTLAS setup. This category is included to reflect the possibility that assistance might be obtained, e.g., from the Bibliocentre, in setting up the data base.

FIGURE 17

PERSONNEL PROJECTION
FOR IMPLEMENTATION PHASE
BC LIBRARY NETWORK
DOBIS

(In thousands of 1979 Canadian dollars)

	Six Month Period					
	1		2		3	
Group and Position	FTE	Cost ($1000)	FTE	Cost ($1000)	FTE	Cost ($1000)
Administrative						
Director	1	21	1	21	1	21
Assistant to the Director	1	14	1	14	1	14
Adm. Services Manager	1	7	1	8	1	8
Switchbd. & Mail Dist.	-	--	-	--	-	--
Secretarial	1	6	1	6	2	12
Subtotal, Administrative	4	48*	4	49*	5	55*
Planning & Finance						
Manager	1	15	1	15	1	15
Accountant	-	--	-	--	-	--
Bookkeeping & Purch. Clerk	1	5	1	6	1	6
Subtotal, Planning & Finance	2	20*	2	21*	2	21*
Marketing, Lib. Support & Data Base						
Manager	1	15	1	15	1	15
Lib. Rep. & Trouble Desk	2	22	2	22	2	22
Duplicate Control	-	--	1	8	1	8
Authority Control	-	--	1	11	3	33
Subtotal, Mktg., Lib. Support	3	37*	6	56*	7	78*
Data Processing						
Manager/Analyst	1	14	1	14	1	14
Systems & Telecom. Pgmr.	1	13	1	13	1	13
Applications Pgmr.	3	32	3	32	3	32
Analyst & Technical Writer	-	--	1	9	1	9
Computer Operator	-	--	2	16	3	24
Scheduling Clerk	-	--	-	--	1	8
Subtotal, Data Processing	5	59*	8	84*	10	100*
TOTAL DIRECT	14	164	20	210	24	254
FRINGE BENEFITS (20%)	-	33	-	42	-	51
GRAND TOTAL	14	197	20	252	24	305

FIGURE 18

IMPLEMENTATION PHASE
COMPUTER EQUIPMENT
AMORTIZATION COSTS
DOBIS
(In thousands of 1979 Canadian dollars)

	Six Month Period		
	1	2	3
Computer Equipment			
Amortization			
Central Processor	42	42	42
Line Printer	6	6	6
Card Reader	2	2	2
Tape Control & 4 Drives	21	21	21
Disk Control	10	10	10
Disk Drives (½,1,1)	12	24	24
Subtotal	93*	105*	105*
Communications Control (½,1,1)	4	8	8
Display Control with Terminals (1/31, 4/32, 19/32)	1	5	23
Added display terminals (-, 4/62, 30/62)	-	12	12
Display Printers (-, 4/24, 12/24)	-	4	11
Subtotal	5*	19*	54*
Auxilary equipment (-,½,1)	-	3*	6*
Storage racks and cabinet (-,¼,1)	-	1*	3*
TOTAL EQUIPMENT AMORTIZATION PAYMENTS	98	128	168

Footnote: Amortization rate based upon 5 years at 14% interest; 6 months payment is 0.115 times the purchase cost.

FIGURE 19

IMPLEMENTATION PHASE
OTHER COSTS
DOBIS
(In thousands of 1979 Canadian dollars)

	1	2	3
	Six Month Period		
I. Costs Common to All Versions			
IBM System Software Rental	16*	16*	16*
Equipment Maintenance			
Central System (including COM control)	19	19	19
Display control and 1 display	-	1	6
Display terminals	-	-	3
Display printers	-	2	5
Subtotal, Equipment Maintenance	19*	22*	33*
Miscellaneous			
Lines & Modems	1	4	33
BCUC/UTLAS Data Base	20	40	--
BCUC/UTLAS Data Base Setup	10	40	--
Data Processing Supplies	25	25	25
Office Supplies, etc.	18	32	40
Travel	20	20	20
Professional Fees	30	30	10
Space and Utilities	50	50	50
Subtotal, Miscellaneous	174*	241*	178*
SUBTOTAL, COMMON COSTS	209	279	227
II. Costs Dependent Upon Version			
A. NLC Version			
DOBIS/LIBIS on-line & LIBIS batch	50		
B. Bibliocentre Version			
DOBIS/LIBIS on-line & LIBIS batch	90		
C. IBM Version			
DOBIS/LIBIS on-line & LIBIS batch	56		
MARC data base	105		
Subtotal, IBM	161		

FIGURE 20

EXPECTED ANNUAL OPERATING COSTS
B.C. LIBRARY NETWORK
(In thousands of 1979 Canadian dollars)
DOBIS

	Cataloging only		All applications	
	Low (1000)	High (1000)	Low (1000)	High (1000)
Personnel				
Direct Staff (27, 28)	619	619	703	703
Fringe Benefits	124	124	141	141
Subtotal, Personnel	$ 743*	$ 743*	$ 844*	$ 844*
System Amortization				
NLC	$ 502*	$ 642*	$ 601*	$ 772*
Bibliocentre	513*	653*	612*	783
IBM	531*	671*	622*	793*
Communications & Maintenance				
Communications (including terminals)	218	196	353	329
Computer	65	43	65	43
Software	33	33	33	33
Data Base	15	15	15	15
Subtotal, Communications & Maintenance	$ 331*	$ 287*	$ 466*	$ 420*
Space & Other Expenses	60	100	60	100
Data Processing Supplies	20	30	25	35
Office, Supplies, Tel & Tel, etc.	40	54	50	60
Travel	20	30	30	40
Professional Fees	20	20	20	20
Subtotal, Other Expenses	$ 160*	$ 234*	$ 185*	$ 255*
GRAND TOTAL				
NLC	$1736	$1906	$2096	$2291
Bibliocentre	1747	1917	2102	2302
IBM	1765	1935	2117	2312

FIGURE 21

SUMMARY OF START UP COSTS AMORTIZED
B.C. LIBRARY NETWORK
IMPORT DUTY AND FEDERAL TAXES WAIVED
(In thousands of 1979 Canadian dollars)
DOBIS

	Cataloguing only		All applications	
	Low	High	Low	High
Amortized Start Up, Annual Cost				
A. NLC Version				
Computer Equipment & Software (5 yrs, 14%)	$245	$351	$327	$464
All Other (10 yrx, 14%)	257	291	274	308
TOTAL ANNUAL	$502	$642	$601	$772
B. Bibliocentre Version				
Computer Equipment & Software	$256	$362	$338	$475
All Other	257	291	274	308
TOTAL ANNUAL	$513	$653	$612	$783
C. IBM Version				
Computer Equipment & Software	$255	$361	$329	$466
All Other	276	310	293	327
TOTAL ANNUAL	$531	$671	$622	$793

Period Years	Interest		Present Value
5	14%	PV =	3.648
10	14%		5.543

4. Annual Operating Costs

The annual operating costs are shown in Figure 20. These costs were obtained by combining the on-going operating costs for personnel, supplies, etc., with a "write-off" of the initial costs required to replicate the system, costs representing equipment, software, data base, and so forth. The value of the write-off figure was established by amortizing: the equipment and software over a five year period, with a 14% interest rate (yielding a present value of 3.648); and the other costs over a ten year period, with a 14% interest rate (yielding a present value of 5.543). The write-off values obtained are shown in Figure 21.

5. Extended Membership

The possibilities for extending the membership are the same with either a replicated WLN facility or DOBIS facility. The same number of additional five libraries has been assumed. The extra costs will revolve around additional communications gear: terminals, modems, and controllers. As was true with WLN these costs for additional members are quite low, because the small size of the membership increase does not affect the central hardware required, nor the support staff size. (This would not be true if the membership size doubled - there would then be further costs.) The additional annual operating costs with an extended membership are:

	Low	High
Cataloguing	$14,000	$14,000
Cataloguing, Acquisitions, Interlibrary Loan	$37,000	$37,000

C. WLN COSTS FOR A REPLICATED FACILITY

The WLN costs for a replicated facility were developed in detail in the Feasibility Substudy. Those same cost projections will be used in the present comparison with DOBIS. The costs will not be reconstructed in detail here, but will be reviewed briefly. Several figures from the previous report have been reproduced in the appendix of this report for convenient reference.

1. Equipment

The WLN replicated facility equipment needs were addressed two ways: first a system based on IBM's 4300 computer was specified and costed; and second a system based on used IBM equipment (370 series) or IBM equivalent equipment was specified and costed. The former provided figures termed "high" and the latter provided figures termed "low". Obviously these terms described the relative costs totals of the two systems.

The equipment maintenance figures for the "low" cost system are higher than the figures for the "high" cost system. The anomaly is that the "low" cost equipment is older and the maintenance costs are higher for that reason. Further the IBM design, and marketing philosophy for the 4300 computers included a change in approach to maintenance that resulted in lower monthly charges.

WLN REPLICATED FACILITY
EQUIPMENT COSTS

	Low Purchase	Monthly Maintenance	High Purchase	Monthly Maintenance
Cataloguing only	$ 874	$23.6	$1,261	$19.9
Cataloguing, Acquisition, Inter-library Loan	$1,143	$34.8	$1,644	$31.0

The terminal needs of the replicated facility were determined based on the number of institutions to be served, their volume of activity, and the functional services desired, such as cataloguing, acquisitions, public service. The circulation function was not considered at all in the costs or plans for the replicated WLN facility. The number of terminals projected for each institution is reproduced in Appendix G. A summary of the terminal requirements follows:

WLN REPLICATED FACILITY
TERMINALS PROJECTIONS

	Cataloguing	Acquisitions	Public Access
A. Colleges	16	10	21
B. Universitites	12	15	6
C. Other	7	5	2
TOTAL	35	30	29

GRAND TOTAL 94

The communications will be a substantial portion of the on-going network costs. The Feasibility Substudy recommended that a more detailed review of the telecommunications network be done, and that the study explore the alternatives.

The communications costs were based on the number of lines, modems, and display controllers, which in turn were based on the number of library locations having one, two, three, ... terminals. The figure of the number of terminals per location is reproduced in Appendix G, figure 17.

2. Personnel

The projected staff plan includes the positions for the administration, finance, marketing, library support service, data base quality control (identification of duplicates and authority control) and data processing. The data processing staff would have responsibility for operating the system as well as maintaining and enhancing the software. While WLN is an operational system, there are improvements on the system that the BC libraries will need upon implementation and other improvements that will be required shortly after implementation. A modest amount has been budgeted for continuing development of the system for these immediate and future needs. A summary of the staffing is included here.

WLN REPLICATED FACILITY
PERSONNEL PROJECTIONS

	FTE	Cataloguing Only	FTE	Cataloguing, Acquisitions, Interlibrary Loan
Administration, Planning & Finance	10	$188	10	$188
Marketing, Library Service, & Data Base Quality Control	7	156	8	178
Data Processing	15	313	18	375
Subtotal	32	657	36	741
Fringe Benefits (20%)		131		148
GRAND TOTAL	32	$788	36	$889

3. Implementation Costs

The tasks to implement the replicated WLN system were outlined, and estimates were made of the effort involved. This information and the necessary sequencing of the work indicated that the implementation period would be 18 months. The equipment, personnel and other costs were reviewed to determine when over the eighteen-month implementation period each resource was needed. The full display of the staging of the costs is in Appendix G. The Summary of the costs for each six-month period follows:

WLN REPLICATED FACILITY
18 MONTH IMPLEMENTATION COSTS

		1st Six Month Period	2nd Six Month Period	3rd Six Month Period
1.	Equipment Amortization	$ 98	$128	$168
2.	Personnel	218	286	338
3.	Other Costs	178	245	364
	TOTAL	$494	$659	$870

IMPLEMENTATION PHASE TOTAL ***$2,023,000***

4. Annual Operating Costs

The annual costs were calculated based on full operation of the replicated facility for cataloguing only, and for cataloguing, acquisitions and interlibrary loan. The start-up costs have been amortized. The equipment and software costs have been amortized at 14% over five years. The other start-up costs have been amortized at 14% over ten years. The detailed operating costs are included in Appendix G. The summary of annual operating costs follows:

WLN REPLICATED FACILITY
ANNUAL OPERATING COSTS

		Cataloguing		Cataloguing, Acq., etc.	
		Low	High	Low	High
1.	Personnel	$ 788	$ 788	$ 889	$ 889
2.	Amortized Start-up Costs	608	737	698	860
3.	Maintenance & Communications	349	307	484	440
4.	Other Expenses	160	234	185	255
	GRAND TOTAL	$1,905	$2,066	$2,256	$2,444

5. Extended Services

Finally the Feasibility Substudy considered the costs of increasing the membership of BCUC to include five other institutions from the public libraries in the Vancouver-Victoria area. This is the anticipated growth in membership for 1980/81.

The additional libraries meant additional terminals, lines, modems, and controllers. The detailed descriptions of the additional equipment and costs is available in Appendix G. The summary of the total costs of the replicated WLN facility with additional members is as follows:

WLN REPLICATED FACILITY
EXTENDED MEMBERSHIP ANNUAL OPERATING COSTS

	Low	High
Cataloguing only	$1,919	$2,080
Cataloguing, Acquisitions, Public Access	$2,293	$2,481

VII. SUMMARY COMPARISON

A. SYSTEM COSTS

The total costs for implementation and on-going operation are less for a replicated DOBIS facility than a replicated WLN facility. The principal differences in operating costs are in three items: personnel ($45,000), amortized set up costs ($67-88,000 depending on version, for all applications), and software maintenance ($20,000). The replicated DOBIS facility will require two less data processing personnel than the WLN facility. The purchase price for the DOBIS software is $94,000 versus $388,000 for WLN and fewer staff are needed to implement the system.

The DOBIS implementation and the WLN implementation are each expected to require 18 months. With the Design Phase time of 6 months, this is a total of 2 years to operational status.

Any comparison with UTLAS will depend on the breadth of services offered and number of the libraries to whom the services will be offered. The same was true for determining economic feasibility in the Feasibility Substudy. The following is the same comparison of costs and alternative levels of services that was done for UTLAS and WLN during the Feasibility Substudy. The UTLAS and WLN cost figures have been extracted from that substudy and are shown below.

1. Past Level of Automated Services Only.

   Scope of Services: Cataloguing without Authority Control

   Scope of Libraries: Present BCUC Membership only

   The annual costs for

UTLAS	$1,460,000
DOBIS	$1,747,000 to $1,917,000
WLN	$1,910,000 to $2,070,000

2. Cataloguing Expanded to Include Authority Control.

Scope of Services: Cataloguing with authority control

Scope of Libraries: Present BCUC Membership

The annual costs for

UTLAS	$1,920,000
DOBIS	$1,747,000 to $1,917,000
WLN	$1,910,000 to $2,070,000

3. Expanded Cataloguing and Expanded Membership.

Scope of Services: Cataloguing with authority control

Scope of Libraries: Expected 1980/81 Membership

The annul costs for

UTLAS	$2,230,000
DOBIS	$1,759,000 to $1,931,000
WLN	$1,920,000 to $2,080,000

4. Expanded Services and Membership.

Scope of Services: Cataloguing with Authority Control, Acquisitions, and Interlibrary Loan.

Scope of Libraries: Expected 1980/81 Membership

UTLAS	acquisitions not presently available
DOBIS	$2,144,000 to $2,339,000
WLN	$2,290,000 to $2,480,000

B. OPERATING FEATURES

1. Features Comparison.

Points awarded in the operating features comparison reveal that UTLAS, DOBIS and WLN are similar in their overall state of development.

UTLAS scored ......564.5, 59% of total points
DOBIS scored ......459, 48% of total points (NL/CISTI)
WLN scored ....627.5 65% of total points

Additionally, percentage scores suggest that all systems will require continuing development. This is included in the cost projection for a replicated facility.

2. Catalogue Record Availability.

Find percentages for current acquisitions were approximately equal, with DOBIS scoring slightly higher:

UTLAS found ... 69% ± 3% of searches (in 1979) (95% confidence)

DOBIS found ... 77% + 2% of searches (in 1980) (" ")

WLN found ..... 79% + 3% of searches (in 1980) (" ")

3. Search Time.

Records are found more quickly on DOBIS.

UTLAS took ... 1.9 ± 0.5 minutes per search (95% confidence)

DOBIS took ... 0.6 + 1.0 minutes per search (" ")

WLN took ..... 1.0 + 0.1 minutes per search (" ")

4. Original Input of Catalogue Records.

To input an original record:

UTLAS took ... 5.9 ± 0.6 minutes per record (95% confidence)

DOBIS took ... 5.0 ± na minutes per record (" ")

WLN took ..... 2.9 ± 0.4 minutes per record (" ")

C. IMPACT UPON CATALOGUING

1. Effect Upon Workflows.

Neither WLN nor DOBIS is expected to have a noticeable effect upon the organization of cataloguing workflows. There will continue to be different levels of staff performing different portions of the production, e.g., pre-order searching, copy cataloguing, original cataloguing.

2. Need to Alter Job Descriptions, Classifications, Etc.

Neither WLN nor DOBIS will require the change of job descriptions, classifications or pay grades to accommodate workflow changes. Since DOBIS is designed to have original cataloguers work directly on the system, the use of DOBIS will allow a reduction in keying from worksheets.

3. Retraining and Reorganization.

With either system, reorganization would not be required. Less retraining will be required for the use of the WLN system than for use of DOBIS; however neither task is as great as was the move from manual operations to the use of UTLAS. When the DOBIS system is used, retraining of the staff released from worksheet keying would be needed in order to prepare them for other assignments and thereby improve the productivity of the department.

4. Expected Changes in Cataloguing Productivity.

WLN would not be expected to provide a productivity improvement in cataloguing when compared with present use of UTLAS. The DOBIS system does provide the possibility of an improvement in productivity. Through its design to have both copy cataloguing and original cataloguing performed directly on the on-line terminal, the redundant process of developing a worksheet and then keying the information into the on-line terminal is eliminated.

5. Requirements for the Support of BCUC Libraries.

Either system would need to be modified in order to provide support which is equivalent to the support that is presently provided by UTLAS. Scoring the present cataloguing support features of the system provided the following results:

	UTLAS	NL/CISTI	Biblio-centre	WLN
a. As Operating At Present				
1) Points awarded	597	585	568	487
2) Percent of total (790)	76%	74%	72%	62 %

The following are the results obtained when the systems were rated based upon the modifications which are included in implementation planning for the BCLN.

	UTLAS	NL/CISTI	Biblio-centre	WLN
b. As Planned for BC Implementation				
1) Points awarded	597	678	658	650
2) Percent of total (790)	76%	86%	83%	82%

Given that the planned implementation is successful, the system with the greatest potential beneficial impact upon cataloguing is the NL/CISTI version of DOBIS.

VIII. RECOMMENDATIONS

A. SUMMARY OF RECOMMENDATIONS

1. Adopt DOBIS as the most appropriate system to meet the economic and service needs of British Columbia.

2. Choose the NL/CISTI version of DOBIS on the condition that its planned output products are available prior to the time that the British Columbia committment must be made.

3. Choose the Centennial College Bibliocentre version of DOBIS if the planned output products of the NL/CISTI version of DOBIS are unavailable at the time that the British Columbia committment must be made.

4. Approach the National Library of Canada to sponsor a development project to establish a telecommunications link between BCLN and NL/CISTI for the purposes of data base sharing.

5. Contract with the Bibliocentre for their programs to load UTLAS and CAN MARC files and to produce output products.

6. Arrange to obtain a copy of the BCUC data base loaded into NL/CISTI from the National Library's development of a national union catalog.

7. Proceed with the general recommendations and plans of the Feasibility Substudy.

B. DISCUSSION OF RECOMMENDATIONS

1. Adopt DOBIS as the Most Appropriate System to Meet the Economic and Service Needs of British Columbia.

Either DOBIS or WLN could be used successfully to support the British Columbia Library Network. Each system has some significant advantages; each has areas in which further improvement is needed. While the systems are close in several regards, the overall rating tends to favor DOBIS. The following are the key factors:

a. The analysis of impact upon cataloguing points to DOBIS as having the greatest potential to improve productivity.

b. Even though DOBIS has more specific improvements needed to provide immediate support to the BCUC libraries, the cost to replicate DOBIS, with these improvements incorporated, is still less than the cost to implement WLN. The reason for this is the necessity to purchase the data base manager, ADABAS, as well as the WLN software, while DOBIS does not require such support. These costs are higher than the staff costs to provide the improvements needed.

c. DOBIS requires a smaller support staff in data processing in order to maintain the system in operation than does WLN. Thus, either the overall costs of operation are lower, or for the same cost of operation, a higher rate of development can be carried out.

d. DOBIS has more support in Canada than does WLN. While it is certainly the case that BCLN will have to rely principally upon its own resources for the support and development of its system, nonetheless, there is some potential to receive some support from other users of the same system. WIN has made a specific point of wishing to have any who replicate the system participate in joint development. While there is no doubt that it is difficult to achieve this in practice, it is still potentially significant in the longer run. The most interesting specific example in this context is that of developing data base sharing via telecommunications with the National Library of Canada. While such sharing can be established regardless of the system chosen to support BCLN, the choice of DOBIS would allow the use of virtually the same software to accomplish the communications on both sides. Finally, while there are three different versions of DOBIS in Canada and only one of them marketed by IBM, it is likely that IBM will be interested in providing some support to any DOBIS installation as a means of improving the market potential of DOBIS for other libraries or applications (remembering still that DOBIS is a field developed product which does not at this time receive the highest level of IBM software support).

2. Choose the NL/CISTI Version of DOBIS on the Condition That Its Planned Output Products Are Available Prior to the Time That the British Columbia Committment Must Be Made.

The NL/CISTI and Bibliocentre versions of DOBIS are each further developed than is the version being marketed by IBM. This is understandable because IBM expects that the user of DOBIS will wish to tailor it to specific uses; this,in essence is what both NL/CISTI and Bibliocentre have done. Since the needs of BCLN are very similar to those of the two Canadian installations, it is understandable that the two should compare more favorably.

NL/CISTI has put a substantial amount of effort into extending the internal capabilities of its DOBIS to handle all of the available MARC formats, both for bibliographic and authority records. As a result, it rates more highly on its internals than does the Bibliocentre version. The most serious impediment of the NL/CISTI version is that it does not at present have any output products, cards or COM, produced from the on-line system. By contrast, the Bibliocentre version produces cards, COM, and other output products as well. NL/CISTI is scheduled to bring its output products into production this year. If this occurs before a choice must be made between the systems, then NL/CISTI should be chosen.

3. Choose the Centennial College Bibliocentre Version of DOBIS If the Planned Output Products of the NL/CISTI Version of DOBIS Are Unavailable at the Time That the British Columbia Committment Must Be Made.

As indicated above, the potential of the Bibliocentre version is nearly as great as that of the NL/CISTI version. Further, any system must have output products if it is to support the BCLN. The Bibliocentre has these products. Even though its internal structure has not received the extensive work that the NL/CISTI version has received, its structure is sufficient to meet most of the requirements that will be placed on the BCLN. Therefore, if NL/CISTI output products are not in a production status when the choice must be made, the Bibliocentre version should be chosen.

4. Approach the National Library of Canada to Sponsor a Development Project to Establish a Telecommunications Link Between BCLN and NL/CISTI for the Purpose of Data Base Sharing. The National Library has carried out extensive exploratory work in this area. As a result it appears that they should soon be ready to move to a prototype demonstration project to test their concepts in an operational environment. To incorporate such data base sharing in the very start up of the BCLN would provide an excellent opportunity to orient the operations of the bibliographic utility around a remote data base resource. Given a successful result, it would allow BCLN to maintain only the most useful portions of resource data base and to rely on NL/CISTI for those portions of the total bibliographic data base with a lower level of demand. It should be pointed out at the same time, however, that at this point, the economics of this approach are unclear; thus, it must be considered as a pilot project to gather important economic and technical information.

5. Contract with the Bibliocentre for Their Programs to Load UTLAS and CAN MARC files and to Produce Output Products. There is no point in re-developing programs that have already been written and operate satisfactorily. Bibliocentre has the experience of changing from UTLAS to their own replicated DOBIS facility. BCLN can benefit from their experience and from the tools they have developed.

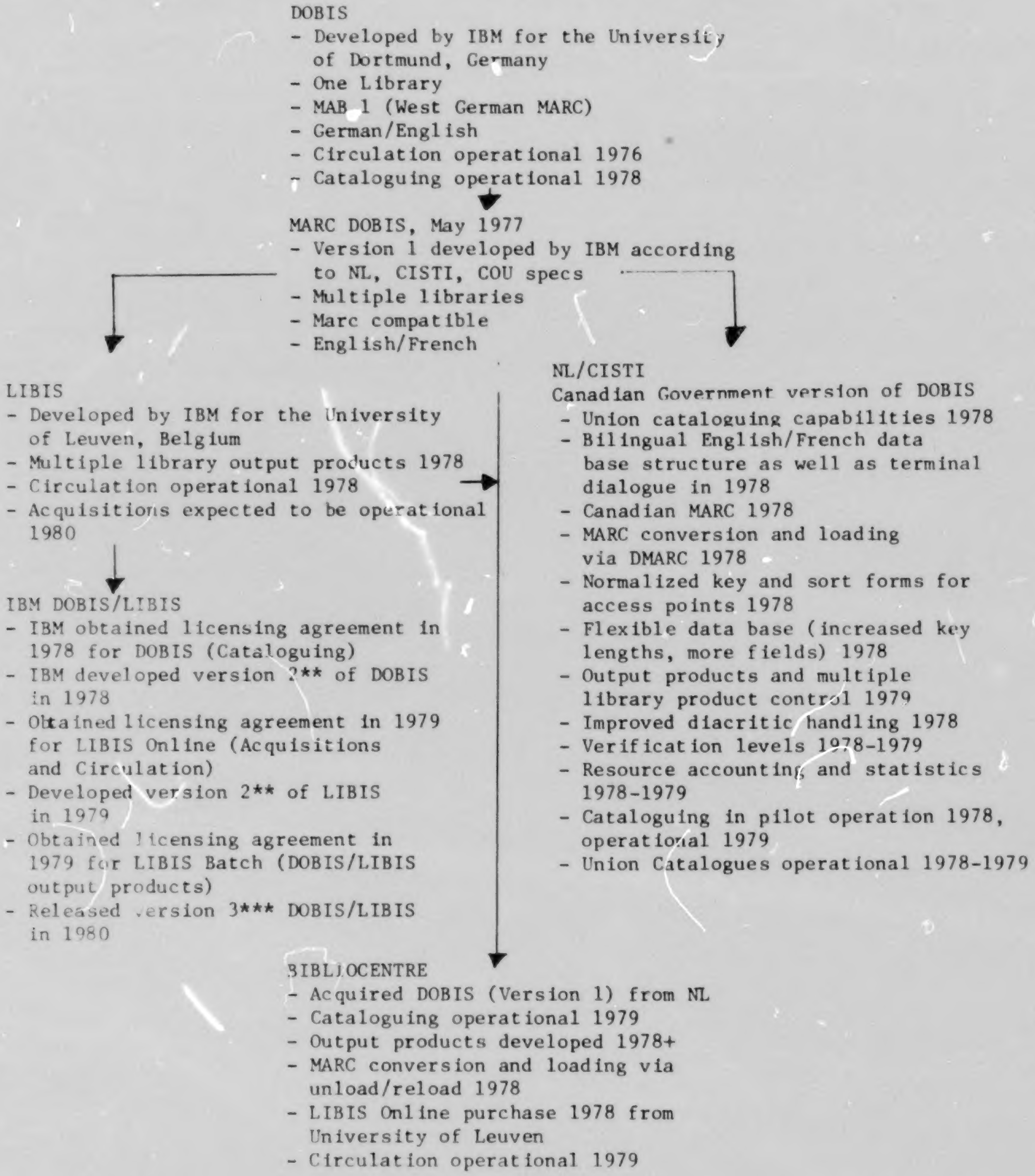
6. Arrange to Obtain a Copy of the BCUC Data Base Loaded into NL/CISTI from the National Library's Development of a National Union Catalog.

   The National Library is currently developing its on-line union catalog on NL/CISTI. As part of this effort it should be possible to have the BCUC data base, presently on UTLAS, loaded into NL/CISTI. Advance arrangements should be made so that when the BCLN is ready for data base loading, a copy of the BCUC data base can be obtained from NL/CISTI.

7. Proceed with the General Recommendations and the Plans of Feasibility Substudy.

   The recommendations of the feasibility to implement a British Columbia Library Network and provide the full range of computer based services to an expanded membership are equally as important with a DOBIS replicated facility. In fact there is no change in those recommendations, except as they relate to implementing DOBIS or WLN software directly. The DOBIS activities have been outlined and can be carried out along with the other associated plans for establishing BLCN and the computer facility.

APPENDIX A
Ancestry of Various DOBIS versions*



DOBIS
- Developed by IBM for the University of Dortmund, Germany
- One Library
- MAB 1 (West German MARC)
- German/English
- Circulation operational 1976
- Cataloguing operational 1978

MARC DOBIS, May 1977
- Version 1 developed by IBM according to NL, CISTI, COU specs
- Multiple libraries
- Marc compatible
- English/French

LIBIS
- Developed by IBM for the University of Leuven, Belgium
- Multiple library output products 1978
- Circulation operational 1978
- Acquisitions expected to be operational 1980

IBM DOBIS/LIBIS
- IBM obtained licensing agreement in 1978 for DOBIS (Cataloguing)
- IBM developed version 2** of DOBIS in 1978
- Obtained licensing agreement in 1979 for LIBIS Online (Acquisitions and Circulation)
- Developed version 2** of LIBIS in 1979
- Obtained licensing agreement in 1979 for LIBIS Batch (DOBIS/LIBIS output products)
- Released version 3*** DOBIS/LIBIS in 1980

NL/CISTI
Canadian Government version of DOBIS
- Union cataloguing capabilities 1978
- Bilingual English/French data base structure as well as terminal dialogue in 1978
- Canadian MARC 1978
- MARC conversion and loading via DMARC 1978
- Normalized key and sort forms for access points 1978
- Flexible data base (increased key lengths, more fields) 1978
- Output products and multiple library product control 1979
- Improved diacritic handling 1978
- Verification levels 1978-1979
- Resource accounting and statistics 1978-1979
- Cataloguing in pilot operation 1978, operational 1979
- Union Catalogues operational 1978-1979

BIBLIOCENTRE
- Acquired DOBIS (Version 1) from NL
- Cataloguing operational 1979
- Output products developed 1978+
- MARC conversion and loading via unload/reload 1978
- LIBIS Online purchase 1978 from University of Leuven
- Circulation operational 1979

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* This chart has been modified with information from IBM Canada, Ltd. The original chart is taken from William L. Newman, et.al., "DOBIS, The Canadian Government Version," Canadian Library Journal, (August 1979) p. 181-194.

** Made available from IBM as Version 1, Release 0

*** Available from IBM as Version 1, Release 1

APPENDIX B

COMPARISON OF OPERATING FEATURES DETAIL WEIGHTS

Feature	Total Possible Points*1	Points Awarded				Percentages of Total Points Available			
		NL/CISTI DOBIS	BIBLIO-CENTRE	IBM	WLN	NL/CISTI DOBIS	BIBLIO-CENTRE	IBM	WLN
1. Search	130	93	90	98	105.5	72	69	75	81
2. File Security	110	82	78	64	76	75	71	58	69
3. Acq.	95	-	-	35	58	-	-	37	61
4. Serials	70	11	19	19	9	16	27	27	13
5. Batch Prod	70	13	34	28.5	48.5	19	49	41	69
6. Recon	50	22	41	22	40	44	82	44	80
7. Auth Control	120	78	75	68	57	60	63	57	48
8. Circ	70	-	57	59	62	-	81	84	89
9. Public Access	50	34	31	33	21*2	68	62	66	42
10. User	60	46	25	25	38	77	42	42	63
11. Gen'l Mgmt.	40	22	20	-	19	55	50	-	48
12. Bib Rec Mgmt.	100	58	49	45	89	58	49	45	89
TOTAL, ALL FEATURES	965	459	519	496.5	623	47	54	51	65

*1. Total possible points per feature established by BCUC to reflect their relative importance.

*2. Modified from the Feasibility substudy to reflect main frame access only.

ACQUISITIONS

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM*	WLN
1.0	10				
.1	3			0	2
.2	2			0	1
.3	-			-	-
.4	3			1.5	3
.5	2			0	2
2.0	25				
.1	2			1	2
.2	7			2.5	7
.3	6			3	6
.4	7			3.5	4
.5	3			1.5	3
3.0	30				
.1	2			1	2
.2	5			2.5	0
.3	3			1.5	1
.4	3			1.5	3
.5	5			2.5	3
.6	5			2.5	4
.7	5			2	4
.8	2			0	0
4.0	10				
.1	2			1	0
.2	2			0	0
.3	2			1	2
.4	2			1	2
.5	2			0	0
5.0	10				
.1	2			1	2
.2	2			1	2
.3	2			1	0
.4	1			0.5	0
.5	1			0	0
.6	2			0	0
6.0	10				
.1	2			1	2
.2	2			1	1
.3	4			0	0
.4	2			0	0
TOTAL	95			35	58

* Reduced to 50% of normal award because although the system has been checked out and accepted, it is not operation in an installation.

AUTHORITY CONTROL

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	18				
.1	4	4	4	4	4
.2	2	2	2	2	2
.3	4	2	1	-	2
.4	4	0	0	0	0
.5	4	1	0	0	2
2.0	18				
.1	-	-	-	-	-
.2	4	4	4	4	4
.3	2	2	2	2	2
.4	2	2	0	0	0
.5	4	4	3	3	4
.6	4	0	0	0	0
.7	2	0	0	0	0
3.0	29				
.1	8	8	8	8	4
.2	10	0	0	0	0
.3	-	-	-	-	-
.4	-	-	-	-	-
.5	5	0	0	0	0
.6	6	0	6	0	6
4.0	29				
.1	13	10	10	10	10
.2	8	6	6	6	6
.3	8	8	8	8	0
5.0	13				
.1	4	4	4	4	4
.2	2	2	2	2	0
.3	2	2	2	2	2
.4	4	0	0	0	0
.5	1	0	0	0	0
6.0	13				
.1	6	5	6	6	0
.2	7	6	7	7	5
TOTAL	120	72	75	68	57

BATCH SERVICES & PRODUCTS

	Possible Points	NL/CISTI DOBIS	Biblio- centre	IBM	WLN
1.0	15				
.1	4	0	4	3	3
.2	2	0	2	1	1
.3	4	0	0	0	3
.4	4	0	0	4	0
.5	1	0	0	0	0
2.0	6				
.1	3	0	3	1	3
.2	3	0	3	0	3
3.0	9				
.1	1	1	1	1	1
.2	2	2	2	2	2
.3	3	3	3	3	3
.4	3	0	0	0	0
4.0	20				
.1	1	0	.5	0	.5
.2	1	0	1	0	1
.3	-	-	-	-	-
.4	3	0	2	1	2
.5	3	0	1	1	1.5
.6	3	0	1	1	2
.7	3	0	1.5	1.5	1.5
.8	3	0	1	0	3
.9	3	0	0	0	3
5.0	10				
.1	4	0	0	0	4
.2	3	3	3	3	0
.3	3	3	3	3	3
6.0	5				
.1	1	1	1	1	1
.2	3	0	0	1	1
.3	1	0	1	1	1
7.0	5				
.1	5	0	0	0	5
TOTAL	70	13	34	28.5	48.5

BIBLIOGRAPHIC RECORD MANAGEMENT

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	30				
.1	8	8	8	8	8
.2	4	4	3	-	4
.3	2	1	1	-	1
.4	4	4	4	4	4
.5	4	4	4	4	3
.6	8	0	0	0	8
2.0	-	-	-	-	-
3.0	19	12	9	9	15
4.0	7	3	3	3	7
5.0	7	3	3	3	7
6.0	7	4	4	4	6
7.0	30				
.1	6	5	4	4	5
.2	6	0	0	0	6
.3	6	4	0	0	6
.4	6	0	0	0	3
.5	6	6	6	6	6
TOTAL	100	58	49	45	89

CIRCULATION

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	20				
.1	-	-	-	-	-
.2	1	-	1	1	1
.3	1	0	1	1	1
.4	7	0	4	5	7
.5	4	0	3	3	4
.6	3	0	3	3	3
.7	2	0	2	2	2
.8	2	0	0	0	0
2.0	5				
.1	1	0	1	1	1
.2	1	0	1	1	1
.3	1	0	1	1	1
.4	2	0	2	2	2
3.0	5				
.1	1	0	1	1	1
.2	1	0	1	1	1
.3	1	0	1	1	1
.4	2	0	2	2	2
4.0	10				
.1	1	0	0	0	0
.2	3	0	3	3	3
.3	2	0	2	2	2
.4	1	0	1	1	0
.5	1	0	1	1	1
.6	2	0	0	0	2
5.0	15				
.1	1	0	1	1	1
.2	3	0	3	3	3
.3	-	-	-	-	-
.4	2	0	1	2	2
.5	5	0	5	5	2
.6	2	0	1	1	1
.7	2	0	2	2	2
6.0	10				
.1	7	0	7	7	7
.2	3	0	3	3	3
7.0	5				
.1	1	0	1	1	1
.2	1	0	1	1	1
.3	2	0	0	0	2
.4	1	0	1	1	1
TOTAL	70	0	57	59	62

FILE SECURITY & MANAGEMENT

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	30				
.1	13	11	11	11	11
.2	10	10	10	10	10
.3	7	7	7	7	3
2.0	15				
.1	8	8	8	8	6
.2	7	7	7	7	7
3.0	15				
.1	6	4	4	4	4
.2	3	0	2	2	2
.3	6	6	6	6	6
4.0	25				
.1	9	0	0	0	6
.2	11	9	9	9	9
.3	5	0	3	0	3
5.0	25				
.1	10	8	0	0	0
.2	5	4	4	0	4
.3	7	5	5	0	5
.4	3	3	2	0	0
TOTAL	110	82	78	64	76

GENERAL MANAGEMENT

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	13				
.1	5	2	2		2
.2	3	3	3		1
.3	5	2	1		2
2.0	13	3	3		3
3.0	10	8	8		8
4.0	4				
.1	1	1	0		1
.2	1	1	1		1
.3	2	2	2		1
TOTAL	40	22	20	-	19

PUBLIC ACCESS

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	10				
.1	4	2	2	2	2
.2	4	2	0	1	2
.3	2	1	0	1	0
2.0	20				
.1	10	10	10	10	10
.2	10	7	7	7	7
3.0	20				
.1	8	8	8	8	0
.2	4	4	4	4	0
.3	8	0	0	0	0
TOTAL	50	34	31	33	21

RETROSPECTIVE CONVERSION

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	10	5	10	5	10
2.0	10	5	6	5	7
3.0	8	0	8	0	2
4.0	7	7	7	7	7
5.0	5	0	0	0	5
6.0	10	5	10	5	9
TOTAL	50	22	41	22	40

SEARCH

	Possible Points	NL/CISTI DOBIS	Biblio- centre	IBM	WLN
1.0	50				
.1	20	18	18	20	18
.2	20	15	15	15	18
.3	10	9	9	9	9
2.0	50				
.1	3	3	3	3	1
.2	11	11	11	11	10
.3	8	8	8	8	8
.4	9	0	0	0	7
.5	3	2	2	2	0
.6	3	1	1	2	2.5
.7	3	3	0	3	3
.8	7	0	0	0	7
.9	3	3	3	3	3
3.0	30				
.1	6	2	2	2	4
.2	6	4	4	4	3
.3	6	6	6	6	6
.4	6	2	2	4	4
.5	6	6	6	6	2
TOTAL	130	93	90	98	105.5

SERIALS

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	10				
.1	3	0	0	0	0
.2	3	0	0	0	0
.3	2	0	0	0	0
.4	2	2	0	0	2
2.0	40				
.1	9	0	0	0	0
.2	6	0	0	0	0
.3	12	0	4	4	4
.4	4	0	0	0	0
.5	9	9	9	9	0
3.0	20				
.1	13	0	3	3	3
.2	7	0	3	3	0
TOTAL	70	11	19	19	9

USER INSTRUCTIONS & DOCUMENTATION

	Possible Points	NL/CISTI DOBIS	Biblio-centre	IBM	WLN
1.0	6	0	1	1	0
2.0	6	4	1	1	6
3.0	6	3	1	1	3
4.0	15				
.1	9	9	3	3	5
.2	6	6	3	3	6
5.0	6	6	6	6	5
6.0	15				
.1	8	6	4	4	4
.2	7	6	0	0	6
7.0	6	6	6	6	3
TOTAL	60	46	25	25	38

APPENDIX C

FEATURES COMPARISON

NL/CISTI DOBIS INFORMATION

NLC/CISTI
BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	
.0 General Information	Not presently implemented. Plan to acquire the LIBIS software for acquisitions and circulation, and modify LIBIS to interface with the file structure in NL/CISTI DOBIS. Acquisitions is scheduled for implementation in fiscal year 1981/82. LIBIS documentation, available from IBM, indicates that all questioned functions are supported, and describes file contents and relationships.
1.1 How long has the acquisition system been operational?	
1.2 How many libraries are using the system currently?	
1.3 How long has each used the system?	
1.4 Types of materials handled? a) monographs b) microfilms c) films d) phonorecords e) maps f) kits g) subscriptions h) standing orders, and approvals i) gifts & exchanges j) added copies	
1.5 Is the LC MARC file and/or other resource files used for order input and verification?	
2.0 Files	
2.1 Describe the files and their interrelationship.	
2.2 What information is in the in-process record a) author b) title c) publisher d) supplier e) order date f) price g) prepayment indication	

NLC/CISTI

BCUC FEATURE COMPARISON -- ACQUISITIONS
(CONT'D)

CRITERIA

2.2 What information is in the in-process record? (CONT'D)
- h) type of material
- i) rush indicator
- j) po number
- k) fund

2.3 How are the in-process files accessed?

2.4 What information does the vendor file have?

2.5 Who keeps the vendor file current?

3.0 System Features

3.1 Does the user in-process file have cancellations? For how long? With reasons for cancellation?

3.2.a. How are foreign currency conversion rates updated?

3.2.b. How frequently?

3.3 Does the system handle prepayments?

3.4 Claims
- a) Does the system claim on a given system?
- b) What is it?
- c) Can it be adjusted?
- d) Are claims reviewed before mailing?

NLC/CISTI

BCUC FEATURE COMPARISONS -- ACQUISITIONS (CONT'D)

CRITERIA

3.5 Fund Accounting

a) Does the system provide for fund accounting?

b) How many subfunds or levels of funds are provided?

c) What information does the funding accounting record contain?

d) Does the system encumber?

e) Can totals be carried over from year to year?

f) Can the user overencumbered by a a designated amount?

g) What kind of fund reports are available? What is the frequency?

3.6 Receiving

a) How are partial shipments handled?

b) How are returns and requests for credits handled?

c) Are damaged books or wrong books automatically reordered?

3.7 Purchase Orders

a) Are purchase orders generated on a regular schedule or on demand?

b) Are orders from different libraries to the same supplier combined?

3.8 Are tapes from or to the supplier read into the system or generated by the system?

NLC/CISTI
BCUC FEATURE COMPARISONS -- ACQUISITIONS
(CONT'D)

CRITERIA	
.0 What kind of management reports are generated?	
4.1 Vendor performance	
4.2 Average price for classes of books/materials	
4.3 Fund status	
4.4 In-process status	
4.5 Outstanding orders	
5.0 Printed Products	
5.1 Purchase orders	
5.2 Claims	
5.3 Cancellations	
5.4 Notification of receipt of items ordered by specific persons	
5.5 Routing slips	
5.6 Vendor reports	
.0 Linkage to other subsystems	
6.1 What is the link to the cataloging subsystem?	
6.2 What is the link to the authority control subsystem?	

NLC/CISTI

BCUC FEATURE COMPARISONS -- ACQUISITIONS
(CONT'D)

CRITERIA

6.3 What is the link to the aerials control subsystem?

6.4 What is the link to the public access subsystem?

NLC/CISTI
BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	
1.0 General Information	
1.1 Is there an automated authority control system in operation?	1.1 The authority records and two way linkages to the bib files are present. All the data fields in the CAN/MARC Authorities Communication format have not yet been implemented. (all variable fields are present; leader 008 and $W are missing). Nor have authority files been loaded independent of bib records.
1.2 How long has it been in use?	1.2 Since September, 1978.
1.3 How many authority records are there now (as of August 1979) list source and number per source a) total authorities b) total names c) total subjects d) total cross reference e) local headings	1.3 a) b) Names - 603,507 - unique c) Subjects - 702,212 d) Not known e) Few if any.
1.4 Are the LC MARC authorities an input to the system? a) names b) subjects	1.4 Not at present, except as derived from bibliographic records.
1.5 What are the other sources for input? e.g., NLC	1.5 Plans are for NL names and subjects, Laval - French subjects, and SHARAF.
2.0 File Organization	
2.1 Diagram of file layout attachments ____	2.1 See the file organization attached to the File Security & Management Section.
2.2 What are files linked?	2.2 There are no links between access point files, but there are links with the bib files and within an access point file.
2.3 Is the heading or an access number stored in the bib record?	2.3 Access pointer (APPTR).
2.4 What does the authority record look like, i.e., data elements?	2.4 See record structures attached. It is based on the Canadian Communications Format.
2.5 Does the heading record have and display the source of the heading, e.g., LC, or local library symbol?	2.5 For both name and subject authority headings, there is at present provision for entering the cataloguing source (or, creator of the heading) on-line in a note which corresponds to the 040 field in the LC and CAN/MARC authority communication format. If this information is entered, it will display as an authority note. In addition, for subject headings, the "subject source" code (which corresponds to an indicator in the 6XX fields in the MARC (format) is input for each subject heading and appears beside

NLC/CISTI
BCUC FEATURE COMPARISONS -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	
	2.5 that heading in the subject access point on-line file display.
2.6 Does the heading indicate the rules by which it was created? e.g., AACR1, AACR2, LC interpetation.	2.6 Not at present. The subfield w will be implemented with this information.
2.7 Is this information used to suppress AACR2 headings until 1981?	
Input Validation	
3.1 Are headings updated automatically on input?	3.1 The user must always search an index file before inputting data to an index. In this way the heading is verified before input is allowed. If there is no heading, and the user had the proper security level, a new heading can then be input.
3.2 Is there a hierarchy of matching against authorities?	3.2 No - all headings are searched. The verification level tells the user of the source.
3.3 Can it be set for each individual user?	3.3 N/A.
3.4 For groups of users?	3.4 N/A.
3.5 How are the LC tapes loaded and the file updated?	3.5 They are not loaded at present.
3.6 Is batch update from user as well as LC possible?	3.6 It is planned, but now no authority files have been loaded in background.
Update	
4.1 When an authority record is changed, are all the linked records changed automatically? How is the owner of the bib linked record notified?	4.1 a) Yes. b) They are not notified automatically at present, but the question is presently under study. Users have identified data elements, changes to which they wish to be notified of, and this notification is currently done manually.
4.2 Can an update replace any matching heading or is the replacement limited to matching records of the same source? E.g. LC update to LC heading, or LC update to any matching heading.	4.2 Replacement/amalgamation is based on a combination of record verification levels and user security levels.

NCL/CISTI

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	
4.3 How are local headings handled when in conflict with one another and/or LC?	4.3 If user puts local heading in a local access file, then there is no conflict. If user puts heading in system files, it must be unique.
5.0 Other Services and Products	
5.1 Are there cross references and notes (scope)?	5.1 Yes, these are input on-line. Cross reference headings are linked by access point pointers (APPTRs).
5.2 Are there bilingual headings?	5.2 Yes.
5.3 Are the authority records and cross references used in production of batch products? a) catalog cards b) book catalogs (in print or microfilm)	5.3 This is planned but not yet implemented.
5.4 Can a user request a tape of bib and authority records in LC MARC communications format?	5.4 Tapes will be in the CAN/MARC communications format or the PCAN/MARC format at the user's option.
5.5 Other authority batch or off-line products?	5.5 NLC has some batch products for authorities that will be continued when authorities processing is fully supported by DOBIS.
6.0 Linkages to Other Subsystems	
6.1 Is the authority file linked to the circulation files?	6.1 and 6.2 DOBIS/LIBIS implicitly links these files and functions. NLC and CISTI will need to make LIBIS compatible with their version of DOBIS.
6.2 Is the authority file linked to the acquisition files?	

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NLC/CISTI
BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS

CRITERIA	
1.0 Catalog Cards	1.0 Catalog cards are not now produced. Scheduled for an April 1980 implementation.
1.1 Are cards available for all MARC formats?	1.1 The plan is to include only monographs and serials.
1.2 How frequently are they produced?	1.2 User preference - cost will be a factor.
1.3 Describe categories where options in format are available. Attachment of card profile.	1.3 The plan is for there to be some options.
1.4 Can cards be pre-sorted?	1.4 The plan is to presort cards.
1.5 Are cross reference cards available?	1.5 Possible but not planned.
2.0 Labels	2.0 Not planned for the immediate future.
2.1 Are book labels produced?	
2.2 Spine lables	
3.0 Edit Lists	3.0 There is no general edit on an entire record. Data fields are edited as input, and error messages appear on the terminal.
3.1 How are records selected for edit lists?	3.1 Edit lists are not applicable. There are printers available for printing individual records.
3.2 What information is available?	3.2 N/A
3.2 How frequently are they produced?	3.3 When there are loads and/or reorganization, error lists are generated.
3.4 Are edit lists accompanied by error listings? When?	3.4 N/A.
4.0 COM	4.0 These are generated in the NLC batch programs.
4.1 Are both microfiche and microfilm available?	4.1 While either can be generated, only fiche has been produced.
4.2 What reduction ratio?	4.2 42X.

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NLC/CISTI

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS (CONT'D)

CRITERIA	
4.3 Do you produce or subcontract the fiche or film generation?	4.3 Subcontract with Datacrown.
4.4 Are all MARC formats available in microfilm?	4.4 Via the batch programs all CAN/MARC formats are available - A/V, music, sound recordings, serials, monographs.
4.5 Are both full and abbreviated entries possible in: a) the same catalog? b) different catalogs?	4.5 a) Yes as in Canadiana b) Yes as in Canadiana.
4.6 Sequences available: a) author (including added entries) separate b) title separate c) subject separate d) shelf list (LC and Dewey) e) author and title combined f) author, title and subject combined g) crossed catalog	4.6 All are possible with current report generator.
4.7 Are union catalogs available? Cite examples of existing union catalogs.	4.7 Publication of the Union List of Serials in the Social Sciences and Humanities is scheduled for July 1980.
4.8 Frequency of generation: a) master only b) master plus supplements - weekly, monthly, bimonthly, semiannual, quarterly.	4.8 Both are possible. Will depend on user preference. Cost will be a factor in the choice.

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NLC/CISTI
BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS
(CONT'D)

CRITERIA	
4.9.a Are there cross references in the catalogs?	4.9 a) In Canadiana there are, but the DOBIS files are not complete.
4.9.b Is there a check for blind references?	b) No.
5.0 Magnetic Tapes	5.0
5.1 Are these available in the LC MARC communications format?	5.1 CAN/MARC only.
5.2 Other formats for tape delivery.	5.2 PCAN/MARC is an option.
5.3 Frequency of tape generation. One time, on demand, weekly, monthly, quarterly, annual.	5.3 CAN/MARC will be weekly. User files will be on demand.
6.0 Paper Catalogs	
6.1 Are the same kinds of catalogs available on paper as microfilm? Explain differences	6.1 In the NLC batch system for Canadiana a proof-list is generated on paper.
6.2 Are photocoposition catalogs available?	6.2 In the NLC batch system, the final Canadiana is photocomposed.
6.3 Are computer lineprint lists available?	6.3 In the NLC batch system - yes.
7.0 Miscellaneous	7.0 Not currently.
7.1 Are microforms of the resource database or portions available?	

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NLC/CISTI
BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT

CR CRITERIA	
1.0 General Knowledge	
1.1 Is the resource file MARC compatible?	1.1 Yes.
1.2 What data fields have been dropped?	1.2 None - NLC must produce CAN/MARC tapes.
1.3 What data fields have been added?	1.3 All input is first converted to CAN/MARC then to DMARC, then to DOBIS. Add - local control fields, additional subject categories, permuted fields, verification levels.
1.4 What data fields have been changed?	1.4 LC MARC is converted to CAN/MARC before loading. When the records are loaded the linking relationships may add additional data.
1.5 What fields are available for local (i.e., user) data?	1.5 All fields except control numbers, ISBN and LC number.
1.6 Can an LC MARC communication file be created as output?	1.6 No - only CAN/MARC communications.
2.0 Describe the record structure.	2.0 See description attached.
3.0 What are the enforceable standards for quality of data input?	3.0 The combination of security levels for people and verification levels for data enable policy decisions of quality levels to be enforced. The DOBIS Input Group is in the process of defining standards in more detail. Chapter 3 of the user documentation covers general principles.

NLC/CISTI
BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT
(CONT'D)

CRITERIA	
4.0 How is a new record released for general use?	4.0 Once the input process has been "ended" the record is available to other users - no mater how complete.
5.0 What other means can be used to release records?	5.0 None.
6.0 What verification is needed for a new record--the manual and system components?	6.0 This is defined by procedures. The verification required depends on the verification level to be assigned the input.
7.0 Duplicate Records	
7.1 How are duplicate records identified?	7.1 On-line: user must search before inputting a new record. This procedure identifies duplicates. Off-line load: now: matching by control numbers and language of cataloguing. Off-line load: July 1980: matching by control numbers,language of cataloguing, title, authors, fixed fields.
7.2 If an LC record is updated, are all user holdings updated?	7.2 If the LC record is in the system level and no user has "blocked" update, then theoretically the update is automatic for the holdings. Processing of LC MARC changes and deletions is scheduled for implementation in July 1980.
7.3 If LC releases a record that matches a non LC record, what happens?	7.3 The LC record might replace, or be amalgamated with the non-LC record if the LC record had a verification level higher than the non-LC record.
7.4 If other resource subscription records, a) match an existing LC record, what happens? b) match a user record, what happens?	7.4 Again this depends on the verification level.
7.5 In a union catalog, how are duplicates identified and resolved?	7.5 File structure and implementation at NLC are that of a union catalog, that is: one bibliographic description per item with holdings attached.

NLC/CISTI
BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	
1.0 General Information	
1.1 What is the system name?	Not presently implemented. Plan to acquire the LIBIS software for acquisitions and circulation, and modify LIBIS to interface with the file structure in NLC/CISTI DOBIS. Circulation is scheduled for implementation in fiscal year 1981/82. LIBIS documentation, available from IBM, indicates that most questioned functions are supported, and describes file contents and relationsips.
1.2 How many systems are installed?	
1.3 How long has oldest been in use? Newest?	
1.4 Are all MARC formats handled by the circ system?	
a) monographs	
b) serials	
c) phono records	
d) films	
e) tapes	
f) maps	
g) microfilms	
1.5 Does the system have the following functions in operation now:	
a) charge	
b) discharge	
c) renew	
d) holds (name in queue for book)	
e) reserves	
f) film and audiovisual bookings	
g) interlibrary loan	
h) branch	
i) fine calculation & payment of fines	

NLC/CISTI

BCUC FEATURE COMPARISON -- CIRCULATION
(CONT'D)

Criteria

1.5 Does the system have the following functions in operation now: (CONT'D)

- j) recall
- k) carrels
- l) in-process monitoring
- m) record - count of all reshelving, i.e. also in library use of material.

1.6 What are the loan periods available and in use?

1.7 What are the types of borrowers?

1.8 How is a book charged if either the book has no circ identification or the borrower does not have his card?

1.9 Public Access

- a) Can the patron search the book files?
- b) Where is this being done now?
- c) How long has it been in use?

2.0 Book Information

2.1 What is the book identification? bar code, book card, etc.?

2.2 What is the book or title record format?

- a) fixed or variable
- b) max characters (average characters)
- c) MARC format

BCUC FEATURE COMPARISON -- CIRCULATION
(CONT'D)

CRITERIA	NLC/CISTI
2.2 What is the book or title record format? (CONT'D)	
d) derived from MARC format	
e) data compression - what?	
2.3 What information is in the book/title record?	
2.4 What are the access points to the book/title file?	
a) author	
b) title	
c) ISBN	
d) book number	
e) search key, describe	
f) subjects	
g) call number	
3.0 Borrower Information	
3.1 What is the borrower card identification? bar code label on student id card, etc.	
3.2 What is the patron or borrower record format?	
a) fixed or variable	
b) max &/or average characters	

NLC/CISTI

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA

3.3 What information is in the borrower file?

3.4 How is the borrower file accessed?

a) patron name

b) patron ID number

4.0 Printed Output

4.1 Does the system generate a date due slip?

4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?

4.3 Recall notices?

4.4 Fines?

4.5 Hold availability?

4.6 Management reports?

a) circulation statistics

b) weeding lists

c) more copies needed

d) other - describe

5.0 Software

5.1 What is the programming language?

5.2 Who maintains the software?

5.3 How many programs are in the system?

NLC/CISTI

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA

5.4 What percent of the programs have been in operation for more than six months?

5.5.a. How does the circulation system interface with the mainframe system?

b. Is there a tape transfer of data?

c. Is there or when will there be a computer to computer transfer of data?

d. What is the protocal for this?

e. Will other systems (other circ systems) be able to emulate this transfer?

5.6 What are the future development plans?

5.7 With other functions be loaded onto this system, such as acquisitions, serials check-in, public access?

0 Hardware

6.1 Describe the hardware configuration and the file capacity as you have designed it.

6.2 Terminals - are there different terminals, for specific usage, e.g. check-out terminals, staff use terminals?

0 User Instruction

7.1 Is there user documentation?

7.2 How is it organized?

7.3 How is it updated?

NLC/CISTI

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA	
7.4 How frequently is it updated?	
8.0 Costs	
8.1 How is the institution charged for the system?	

NLC/CISTI
BCUC FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT

CRITERIA	
.0 File Organization	
1.1 Describe mainframe resource and user file structure.	1.1 See attached file layout. NLC is encouraging all users to keep their bib file in the system level files.
1.2 How are individual holdings and union holdings accommodated in the file structure?	1.2 The system holdings level is the national union catalogue level. The summary of local holdings level can be used to provide a union catalogue for, for example, all libraries including branches in a government department, or a university. The single copy level is just that - information pertaining to a single copy in a particular location. See file layouts. At present it is possible for one user/library to search to the single copy level of another user/library.
1.3 Describe the file relationships between mainframe files and mini-based files.	1.3 There are no mini-computer based files at present.
2.0 File Maintenance	
2.1 How frequently are the source files updated?	2.1 Updates are made in real time. There is presently a continuing effort to load (in background mode) the LC MARC, CAN/MARC, and CONSER files. These background loads are also real time updates that can be run during on-line operation.
2.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing, or instantly?	2.2 Updates are always made in real time - instantaneously. Statistics on file usage indicate to data base administration staff when a file reorganization for a particular file is required. File reorganizations are always scheduled for a period when the on-line system is down anyway (e.g. overnight or on weekends. Each file can be reorganized independently of all the other files in the system. The biggest file, the title file, currently takes about 15 hours elapsed time to reorganize the IBM 370/3031
3.0 File Security	
3.1 How would you know if you lost data?	3.1 Early morning check-out procedures indicating a problem.
3.2 When was the last time you lost data that was unrecoverable?	3.2 Six months ago when the wrong version of an index was loaded. During the initial days of the pilot project (Sept. 1978) data lost at least once a month. This has been corrected. At present the data base update journal tapes cannot be applied to the last back-up copy of the database to recover lost data. It must be re-entered on-line. Programming is underway to change this (target March 31, 1980).
3.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.	

142.

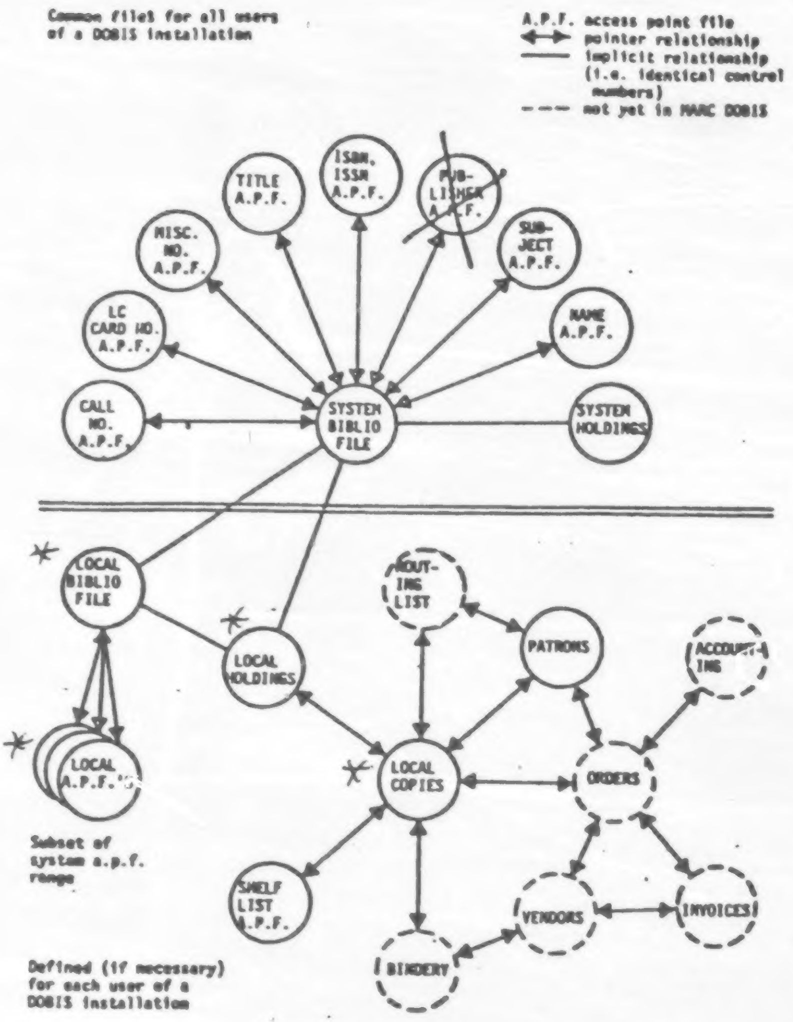

Common files for all users
of a DOBIS installation
A.P.F. access point file
pointer relationship
implicit relationship (i.e. identical control numbers)
not yet in MARC DOBIS
TITLE A.P.F.
ISBN, ISSN A.P.F.
~~PUB-LISHER A.P.F.~~
MISC. NO. A.P.F.
SUB-JECT A.P.F.
LC CARD NO. A.P.F.
NAME A.P.F.
CALL NO. A.P.F.
SYSTEM BIBLIO FILE
SYSTEM HOLDINGS
*
LOCAL BIBLIO FILE
ROUT-ING LIST
*
LOCAL HOLDINGS
PATRONS
ACCOUNT-ING
*
LOCAL A.P.F.'S
*
LOCAL COPIES
ORDERS
Subset of system a.p.f. range
SHELF LIST A.P.F.
VENDORS
INVOICES
BINDERY
Defined (if necessary) for each user of a DOBIS installation

FIGURE 1. MARC DOBIS Data Base Overview

*Each is one physical file in the Canadian government version of DOBIS. Look like individual files to user institutions.

NLC/CISTI

BCUC FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT (CONT'D)

CRITERIA	
	3.2 A combination of security levels for users and verification levels for data controls update and access to data for all files. Described in Chapter 3 of User Documentation.
4.0 Response Time	
4.1 What is the average response time for the last six months?	4.1 Precise data on this is not collected, because response time can be many things. Staff both at the NRC computer center and at the DOBIS project are continually working to improve it.
4.2 How does the file architecture take response time into consideration?	4.2 The numerous indexes and the brief primary record are designed to minimize the amount of data transmitted in response to an inquiry. The way the files are spread across the 3350's is designed to minimize response time.
4.3 How long (in computer cpu execute time) does it take to pull an individual file of 30,000 bib records? A union file of four institutions of 60,000 records?	4.3 No data available at present because output products are not presently available from DOBIS
5.0 File Security	
5.1 What has been the up-time percentage for the first six months of 79?	5.1 During 1978 in the pilot project, the up-time percentage averaged about 90%. During the last six months, up-time has averaged over 97%.
5.2 How has that differed from 1978?	5.2 Improved up-time.
5.3 What are main components of the down-time (i.e. causes)?	5.3 DOBIS - 1/3 Host VSI/CICS } 2/3 Computer Ops
5.4 What are the most common reasons for down-time now?	5.4 and 5.5 See 5.3
5.5 For first six months of 1979?	

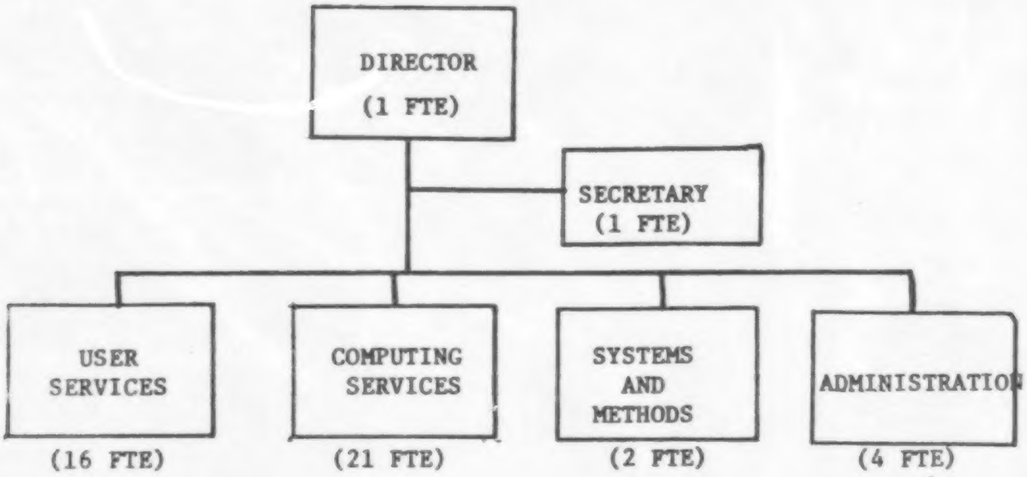
NLC/CISTI

BCUC FEATURE COMPARISON -- GENERAL MANAGEMENT AND ORGANIZATIONS

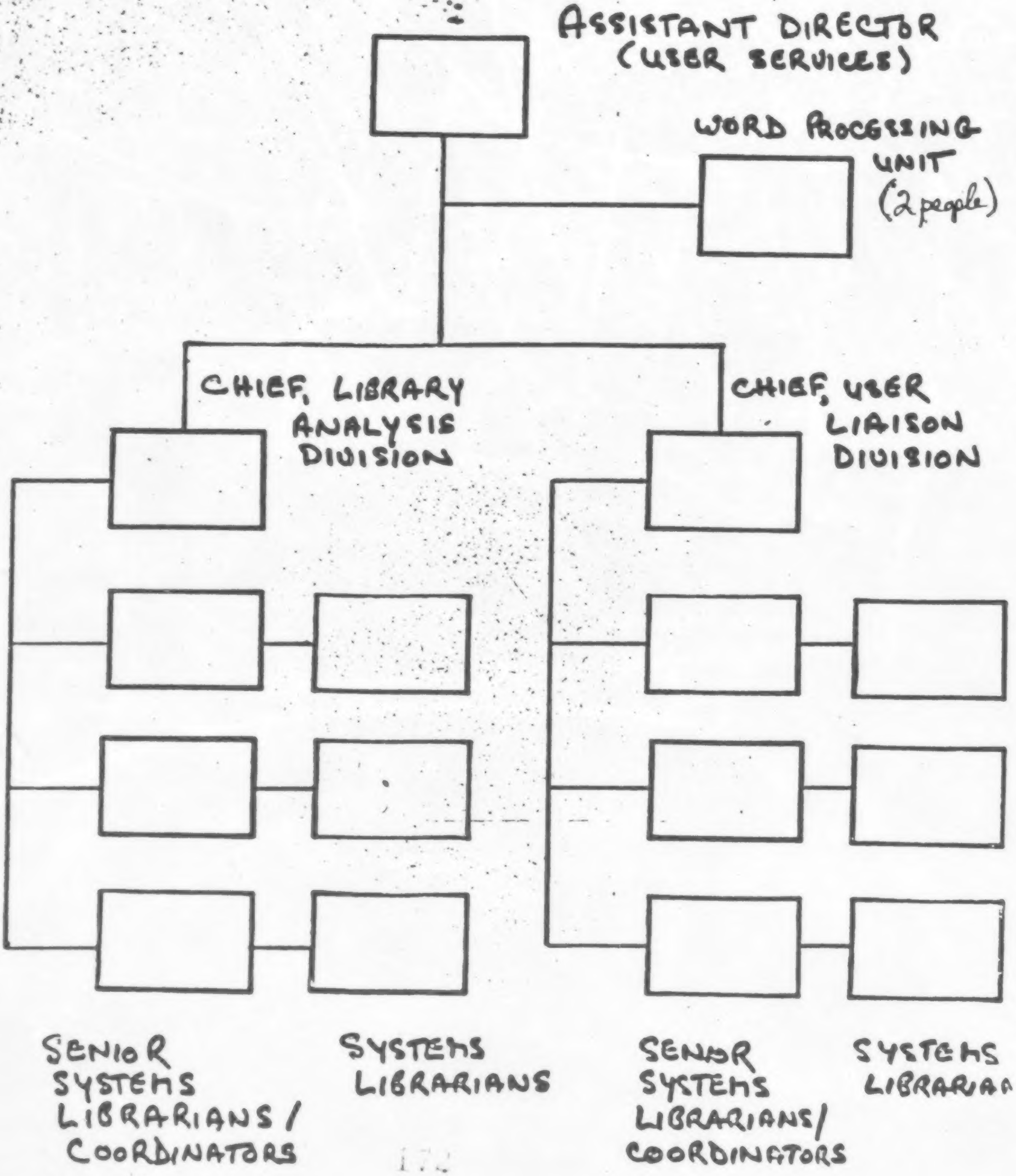
CRITERIA	
1.0 Organization	
1.1 Provide an organization chart	1.1 There are two major units - User Services and Computing Services - organization charts are attached.
1.2 How many people are involved in each of the major units?	1.2 User services - 16 (fiscal year 80/81). Computer services - 21 (fiscal year 80/81).
1.3 How many staff are directly involved in running the system?	1.3 There are five running the system involved with systems control, data communication, and database administration. There are three involved with output products of the batch system. Computer time bought from NRC.
2.0 Development Funding	
2.1 How will development of new subsystems and features be financed?	2.1 All general development funding will come from NLC and CISTI. Users from other institutions who want unique development will pay, but they may have a problem obtaining a priority on programming resources.
3.0 User Participation	
3.1 How do the users indicate their preferences for system development?	3.1 There is a committee structure (see attached). The principal user committees involved in DOBIS development and operation are as follows: DOBIS Planning & Implementation Team DOBIS Input Group DOBIS Analysis Round Table DOBIS Functional Priorities Group DOBIS Data Base Loading Priorities Group (Ad-hoc)
4.0 Growth	
4.1 What is the potential growth over the next three years?	4.1 Targeting for 10 new libraries per year.
4.2 Where will this growth come from?	4.2 Federal libraries.
4.3 Will new features and systems be required to obtain this growth?	4.3 Additional functions such as acquisitions, serials, and circulation are planned. Existing cataloguing and searching modules are being, and will continue to be enhanced.

NATIONAL LIBRARY OF CANADA

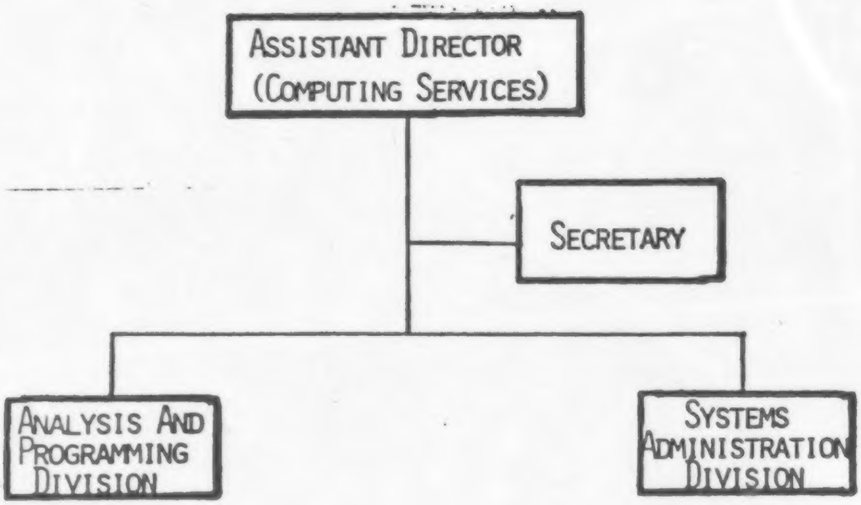
LIBRARY SYSTEMS CENTRE


DIRECTOR
(1 FTE)
SECRETARY
(1 FTE)
USER SERVICES
(16 FTE)
COMPUTING SERVICES
(21 FTE)
SYSTEMS AND METHODS
(2 FTE)
ADMINISTRATIO
(4 FTE)

ORGANIZATION OF USER SERVICES

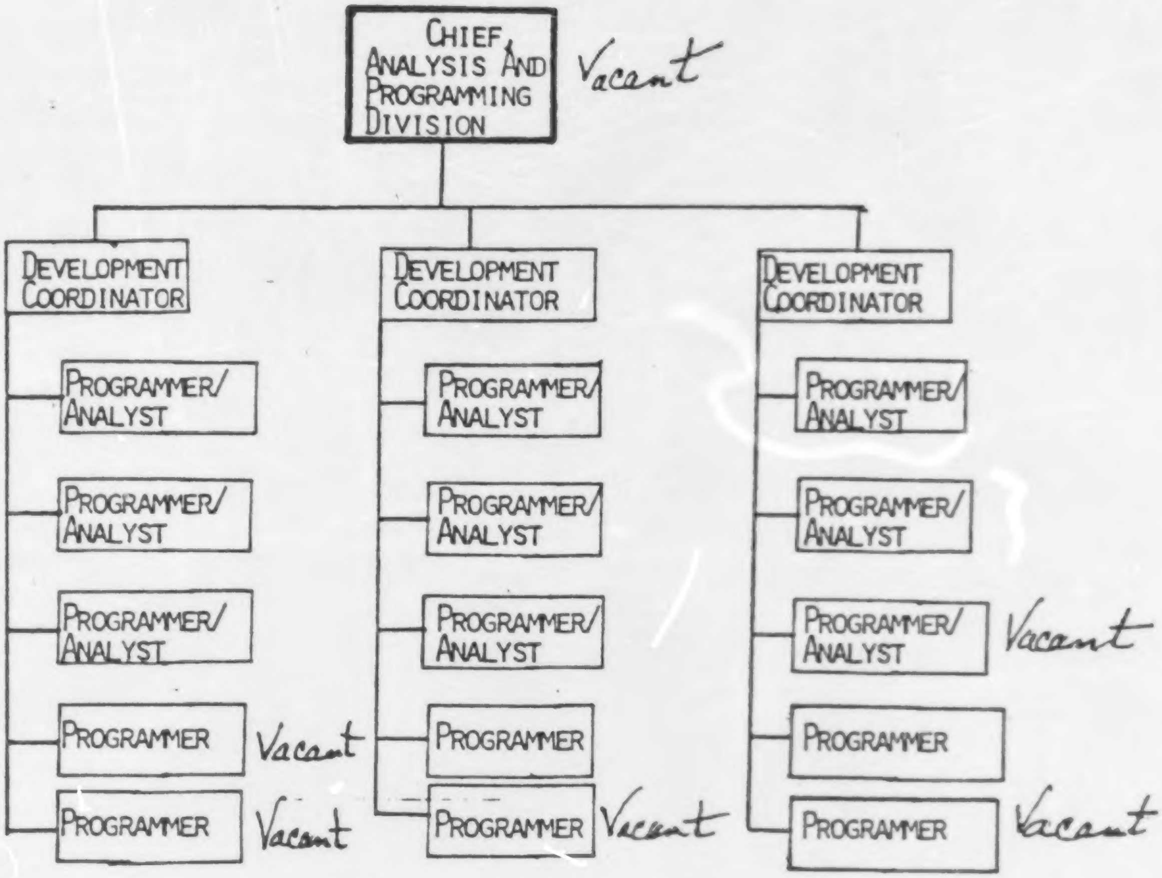

ASSISTANT DIRECTOR (USER SERVICES)
WORD PROCESSING UNIT (2 people)
CHIEF, LIBRARY ANALYSIS DIVISION
CHIEF, USER LIAISON DIVISION
SENIOR SYSTEMS LIBRARIANS / COORDINATORS
SYSTEMS LIBRARIANS
SENIOR SYSTEMS LIBRARIANS/ COORDINATORS
SYSTEMS LIBRARIA

PROPOSED ORGANIZATION
COMPUTING SERVICES


ASSISTANT DIRECTOR (COMPUTING SERVICES)
SECRETARY
ANALYSIS AND PROGRAMMING DIVISION
SYSTEMS ADMINISTRATION DIVISION

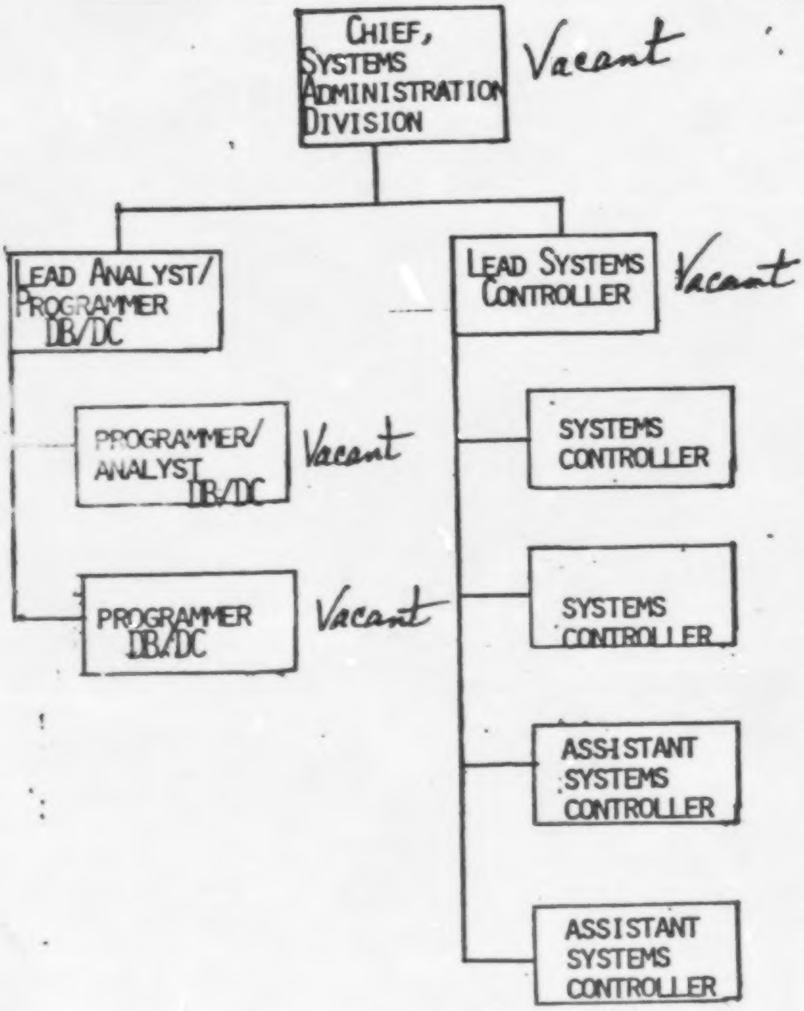
2 positions

PROPOSED ORGANIZATION
ANALYSIS AND PROGRAMMING DIVISION


CHIEF, ANALYSIS AND PROGRAMMING DIVISION
Vacant
DEVELOPMENT COORDINATOR
PROGRAMMER/ ANALYST
PROGRAMMER/ ANALYST
PROGRAMMER/ ANALYST
PROGRAMMER
Vacant
PROGRAMMER
Vacant
DEVELOPMENT COORDINATOR
PROGRAMMER/ ANALYST
PROGRAMMER/ ANALYST
PROGRAMMER/ ANALYST
PROGRAMMER
PROGRAMMER
Vacant
DEVELOPMENT COORDINATOR
PROGRAMMER/ ANALYST
PROGRAMMER/ ANALYST
PROGRAMMER/ ANALYST
Vacant
PROGRAMMER
PROGRAMMER
Vacant

19 positions
6 vacant

PROPOSED ORGANIZATION
SYSTEMS ADMINISTRATION DIVISION


CHIEF, SYSTEMS ADMINISTRATION DIVISION
Vacant
LEAD ANALYST/ PROGRAMMER DB/DC
LEAD SYSTEMS CONTROLLER
Vacant
PROGRAMMER/ ANALYST DB/DC
Vacant
SYSTEMS CONTROLLER
SYSTEMS CONTROLLER
PROGRAMMER DB/DC
Vacant
ASSISTANT SYSTEMS CONTROLLER
ASSISTANT SYSTEMS CONTROLLER

9 positions
4 vacant

DOBIS DEVELOPMENT AND OPERATION SCHEDULE 1979/80 - [illegible]

ACTIVITY	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86
DEVELOPMENT AND MAINTENANCE OF BASIC DOBIS FUNCTIONS							
CATALOGUING/CATALOGUE SEARCH	▨	▨	▨	▨	▨	▨	▨
ACQUISITIONS		▨	▨	▨	▨	▨	▨
CIRCULATION			▨	▨	▨	▨	▨
SERIALS CONTROL				▨	▨	▨	▨
NATIONAL LIBRARY OPERATIONS ON DOBIS							
CATALOGUING/CATALOGUE SEARCH							
UNION CATALOGUE OF SERIALS	▨	▨	▨	▨	▨	▨	▨
PERIODICALS LISTING	▨	▨	▨	▨	▨	▨	▨
INTERLIBRARY LOAN LOCATIONS, REFERENCE	▨	▨	▨	▨	▨	▨	▨
UNION CATALOGUE OF BOOKS	▨	▨	▨	▨	▨	▨	▨
CATALOGUING FOR NLC	▨	▨	▨	▨	▨	▨	▨
CANADIANA		▨	▨	▨	▨	▨	▨
CANADIAN OFFICIAL PUBLICATIONS, LLC		▨	▨	▨	▨	▨	▨
OTHER PUBLIC SERVICES UNITS			▨	▨	▨	▨	▨
RETROSPECTIVE CANADIANA			▨	▨	▨	▨	▨
CANADIAN THESES			▨	▨	▨	▨	▨
ACQUISITIONS							
ACQUISITIONS AND SELECTION			▨	▨	▨	▨	▨
CANADIANA ACQUISITIONS AND LEGAL DEPOSIT			▨	▨	▨	▨	▨
OFFICIAL PUBLICATIONS, MULTILINGUAL BIBLIOSERVICE			▨	▨	▨	▨	▨
CIRCULATION (LOCAL, INTERLENDING)			▨	▨	▨	▨	▨
SERIALS CONTROL					▨	▨	▨
SHARED LIBRARY OPERATIONS							
CISTI							
CATALOGUING/CATALOGUE SEARCH	▨	▨	▨	▨	▨	▨	▨
ACQUISITIONS			▨	▨	▨	▨	▨
CIRCULATION			▨	▨	▨	▨	▨
SERIALS CONTROL					▨	▨	▨
LIBRARY OF PARLIAMENT							
CATALOGUING/CATALOGUE SEARCH	▨	▨	▨	▨	▨	▨	▨
ACQUISITIONS			▨	▨	▨	▨	▨
CIRCULATION				▨	▨	▨	▨
SERIALS CONTROL						▨	▨
6 OTHER FEDERAL GOVERNMENT LIBRARIES		▨	▨	▨	▨	▨	▨
10 MORE FEDERAL GOVERNMENT LIBRARIES		▨	▨	▨	▨	▨	▨
10 MORE FEDERAL GOVERNMENT LIBRARIES			▨	▨	▨	▨	▨
10 MORE FEDERAL GOVERNMENT LIBRARIES				▨	▨	▨	▨
10-15 MORE FEDERAL GOVERNMENT LIBRARIES					▨	▨	▨
10-15 MORE FEDERAL GOVERNMENT LIBRARIES						▨	▨
10-15 MORE FEDERAL GOVERNMENT LIBRARIES							▨
INTERCONNECTION							
OTHER CANADIAN DOBIS CENTRES		▨	▨	▨	▨	▨	▨
LIBRARY OF CONGRESS [illegible]			▨	▨	▨	▨	▨
[illegible]				▨	▨	▨	▨

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NLC/CISTI

BCUC FEATURE COMPARISON -- PUBLIC ACCESS

CRITERIA	
1.0 General Information	
1.1 Is there a public access system?	1.1 No, but some experimentation in using the search module or a public access system has been conducted at NL.
1.2 How long has it been in use?	1.2 There are terminals in the public reference area in NL and terminals will be available at CISTI and the Library of Parliament.
1.3 How many users are on the system?	1.3 No library patrons at present - experiments only.
2.0 Search	
2.1 What files are available for searching?	2.1 The same files are available, because it is not a separate subsystem. The public access security and authorization levels prohibit some kinds of transactions such as update.
2.2 How can the files be searched?	2.2 Same search methods as the cataloging department may use.
3.0 System Messages	
3.1 Does the system prompt the user?	3.1 Yes.
3.2 Is there menu selection for functions?	3.2 Yes.
3.3 Are the system explanations expandable, i.e. novice and expert?	3.3 Command chaining allows the 'expert" user to procede more quickly. Hope to put all documentation into DOBIS in the future to aid the novice user.

NLC/CISTI

BCUC FEATURE COMPARISON -- RECON METHODS

CRITERIA	
	RECON has not been an issue in the DOBIS project. Users have either had their files in machine readable form, or converted their files on line.
1.0 What are the recon input methods?	1.0
a) batch	a) No.
b) on-line	b) Yes.
2.0 What are the recon access keys?	2.0 The same as the on-going access points -
a) LC no.	a) Yes.
b) ISBN no.	b) Yes.
c) ISSN no.	c) Yes.
d) author	d) Yes.
e) title	e) Yes.
f) system id no.	f) Yes.
3.0 What is the turn-around with the batch input?	3.0 N/A
4.0 What are the differences in service, products, and costs with on-line recon service as compared to the regular on-line cataloging service?	4.0 No differences in service.
5.0 How many users are using the recon facility for recon purposes?	5.0 All users are considering on-line retrospective conversion of one sort or another.
6.0 Is the entire data base and system facilities available for recon? If not, what is available?	6.0 Yes.

NCL/CISTI
BCUC FEATURE COMPARISON -- REPLICATION INFORMATION

CRITERIA	
1.0 What information is given to the institution who chooses to replicate the software?	1.0 The NLC/CISTI version of DOBIS.
1.1 System documentation	1.1 Yes.
1.2 Program documentation (including macros, tables, subroutines, utilities)	1.2 Yes.
1.3 Is the replicated institution given source or object code?	1.3 Both.
1.4 Run instructions	1.4 Yes.
1.5 run jcl	1.5 Yes.
1.6 Control forms	1.6 Yes.
2.0 What is the training program for replication?	
2.1 Operations staff	2.1 - 2.4 Contract allows for 2 people to have 15 days of training at NLC.
2.2 Programming staff	
2.3 Control staff	
2.4 'Network' staff	
2.5 What recourse does the replicated user have to resolve problems during the first year of operations?	2.5 Telephone conversations, site visits if required and at replicated user's expense.
3.0 What is the procedure for bringing up the software in the replicated facility?	3.0 The Canadian government version of DOBIS was successfully replicated with Centennial College. A detailed plan was established before the replication with Centennial. Such a plan, dependent upon the replicating institution's facilities and configuration, would be established for each subsequent replication effort
4.0 What is the acceptance test criteria?	4.0 There are no guarantees or warranties.
5.0 What happens to any guarantees or warranties, if the software is modified?	5.0 N/A.

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NLC/CISTI
BCUC FEATURE COMPARISON -- REPLICATION INFORMATION
(CONT'D)

CRITERIA	
6.0 Does the replicated institution receive software updates, as well as documentation updates?	6.0 NLC would be interested in exchanging software updates if possible. There was a formal procedure for these between NLC and Centennial- but it was never used (because the two versions quickly developed incompatibilities in key areas).
7.0 Staff	7.0 Centennial began with four staff. 1 librarian for user training and liaison 1 systems software type familiar with CICS. 2 applications programmers.
7.1 How many staff are needed to run a replicated system?	
7.2 What would each staff member's responsibility be?	

NLC/CISTI

BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	
1.0 Files	
1.1 Resource files can be searched by:	1.1
a) LC no.	a) Yes } also includes Canadian no., OCLC no. classification numbers, other national bibliography numbers, etc.
b) ISBN no.	b) Yes
c) ISSN no.	c) Yes
d) System no.	d) DOBIS document number
e) Author key	e) No.
f) Author words	f) Yes - conference and corporate names are permuted and point to the full form of the name.
g) Title key	g) No.
h) Title words	h) Yes - titles are permuted and point to the full form of the title.
i) Subject	i) Yes.
1.2 Authority file	1.2 The authority files are an integral part of the bibliographic descriptions and actually are the access point files for names and subjects. The verification level indicates the standards followed in creation the source, and accuracy of the authority heading.
a) System no.	a) No user access, but APPTR access for systems staff.
b) Words	b) Yes - same as 1.0
c) Key	c) No.
1.3 Library bib files	1.3 Unless a user has local biblio files with separate access pointer files, the access is through the system files as mentioned in 1.0 with the addition of local holdings access.
a) LC no.	a) Yes.
b) ISBN no.	b) Yes.
c) ISSN no.	c) Yes.
d) System no.	d) Yes.
e) Author key	e) No.
f) Author words	f) Yes.
g) Title key	g) No.
h) Title words	h) Yes.
i) Subject	i) Yes.
2.0 SEARCH Types	
2.1 Is there a search only capability?	2.1 Yes.
2.2 Is it possible to browse through files? Which ones?	2.2 The user can browse through all files at system level and their own local holdings.

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NLC/CISTI
BCUC FEATURE COMPARISON -- SEARCH
(CONT'D)

CRITERIA	
2.3 Can one browse through the authority files, and then display bib records?	2.3 Yes - one searches via an access point file (apf), then goes to the primary bib data and then to secondary bib data.
2.4.a Does the system handle Boolean Searches? b. What are the limits to the use of the Boolean capability - size and procedures?	2.4 a) Not yet. b) N/A.
2.5 Is there a novice and expert method of searching?	2.5 Yes, command chaining allows the experienced system user to move more quickly through the screens. The terminal, IBM 4978, lets the user define strings of characters as keys which speeds the process.
2.6 a Is the search logic designed for the public or for library employees? b Is anyone presently using the system for direct patron inquiry?	2.6 a) library employees. b) There have been some experiments, but the consensus is that patrons, like library staff, need preliminary training before using the system alone.
2.7 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	2.7 Yes - the user can go back to the full search list after having viewed one item from the list.
2.8 Can the search be referred so that further searches are made on the hits?	2.8 No. This will be part of the Boolean search feature.
2.9 Can a heirarchy of source databases and other library databases be established for matching?	2.9 Not applicable. The files are not stored separately The only real possibility of this is the local bib file. The user would search the system level files and then the local files.
Display	
3.1 If the system retreives more than one match, what information is displayed?	3.1 The display is: main entry, title, date of publication, form of reproduction. This is a one-line display per title.

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NLC/CISTI
BCUC FEATURE COMPARISON -- SEARCH
(CONT'D)

CRITERIA	
3.2 Can the searcher request to view another users record at this point?	3.2 Not really applicable unless local bib files are implemented, and then the answer would be a policy issue.
3.3 When a hit is displayed, are the holdings codes of other institutions also displayed?	3.3 Yes - the user would see their own holdings codes automatically, and can request the display of other user holdings.
3.4 If one record matches the key, does the system display the full record immediately?	3.4 Yes - if the user followed the proper comma sequence.
3.5 What is the maximum number of hits by search types? What happens when a user hits this number?	3.5 34,000. No one has hit the maximum yet.

NLC/CISTI

BCUC FEATURE COMPARISON -- SERIALS

CRITERIA	
.0 General Information	
1.1 Is the serials subsystem working?	1.1 Development of the serials control module is scheduled to begin in 1982/83, with initial implementation in mid 1983/84. Serial bibliographic records can be, and are being created now in DOBIS. The CONSER authenticated file is also in DOBIS. Summary holdings information is being added to serial records now by the Union Catalogue of Serials Division, meaning that part of the NL's union catalogue of serials is now a subset of the DOBIS data base. Holdings information for serials can also be entered now by on-line users at the single copy (i.e., one subscription) level. Issue control will be implemented as part of the serials control module.
1.2 How long has it been operational?	1.2 N/A.
1.3 How many users are there? Who are they?	1.3 N/A
1.4 Are the conser records available as a resource file? How many?	1.4 **CONSER** authenticated records are loaded on the system. There are approximately 84,000 records as of January 28th, 1980. New records are added on a weekly basis.
2.0 What functions does the subsystem perform?	
2.1 serials check-in	2.1 No. Will be developed.
2.2 serials claim	2.2 No. Will be developed.
2.3 subscription monitoring (ordering, renewal, cancellation)	2.3 No. Will be developed.
2.4 binery control	2.4 No. Will be developed.
2.5 Can holdings be used in a summary fashion as well as detailed holdings?	2.5 Holdings can be input in a summary fashion, and also, by on-line users at the "single-copy" level. Issue level control will be part of the serials control function.
3.0 Linkage to other subsystems	
3.1 What is the linkage between serials and acquisition?	3.1 Both functions will use the same date base: document, access point, and holdings data. There will be no duplication of data.
3.2 What is the linkage to the circulation and public access?	3.2 As 3.1

NLC/CISTI
BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	
1.0 Is the documentation indexed?	1.0 There is a detailed Table of Contents in each document, but no index.
2.0 Are there samples of the procedures within the text?	2.0 There are examples interspersed through the text. The manuals are general in nature. Users are encouraged to supplement the manuals to explain their own procedures.
3.0 Does the documentation follow the different operations from beginning to end?	3.0 The main chapters in the DOBIS: User Manual (Searching, Cataloguing, Holdings, Products) taken as a whole can be said to cover the different operations from beginning to end with the alternative choices of action at each step being described in detail. There is as yet no quick reference tool for specific instructions.
4.0 Preparation 4.1 What is the procedure for creating and releasing new or updated documentation? Who is responsible for writing? Who reviews the draft? 4.2 What is policy on features? the documentation accompanies the announcement of a new feature? are there guinea pig users who check out a new feature prior to general announcment of the features release?	4.0 Within the Library Systems Centre there is a group,User Liaison, that is responsible for documentation. The revised documentation release and the change in the production system are closely coordinated for simultaneous release. All documentation issued in both English and French. System modifications are implemented first in the "test" system and are available to at least selected users for review and comment before they are implemented in the "production" system.
5.0 What portions of the system are not included in the user documentation?	5.0 The maintenance functions have not yet been included, and the input conventions are not complete.
6.0 Updates 6.1 How often is the user documenation updated?	6.1 Updates to the user documentation are issued as necessitated by system changes. The DOBIS weekly report is used to notify users to make manual updates to documentation in the cases where formal updates are not immediately available.
6.2 What is the date of the last update?	6.2 The most recently issued update was the chapter on bibliographic relationships for the DOBIS: Input Conventions. It was distributed in February 1980.
7.0 Is the documentation clear and easy to use? understandable?	7.0 Yes - the documentation is extremely good for teaching, and not intended for quick reference.

APPENDIX D

FEATURES COMPARISON

BIBLIOCENTRE DOBIS INFORMATION

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BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	
0 General Information	Plan to implement the Leuven version in Summer 1980, with extensive modifications to change it from a library specific application to an open, business/industry oriented system. That is, the system will support college, hotel and restaurant purchasing in addition to library acquisitions.
1.1 How long has the acquisition system been operational?	
1.2 How many libraries are using the system currently?	
1.3 How long has each used the system?	
1.4 Types of materials handled? a) monographs b) microfilms c) films d) phonorecords e) maps f) kits g) subscriptions h) standing orders, and approvals i) gifts & exchanges j) added copies	
1.5 Is the LC MARC file and/or other resource files used for order input and verification?	
0 Files	
2.1 Describe the files and their interrelationship.	
2.2 What information is in the in-process record a) author b) title c) publisher d) supplier e) order date f) price g) prepayment indication	

CRITERIA

2.2 What information is in the in-process record? (CONT'D)
- h) type of material
- i) rush indicator
- j) po number
- k) fund

2.3 How are the in-process files accessed?

2.4 What information does the vendor file have?

2.5 Who keeps the vendor file current?

3.0 System Features

3.1 Does the user in-process file have cancellations? For how long? With reasons for cancellation?

3.2.a. How are foreign currency conversion rates updated?

3.2.b. How frequently?

3.3 Does the system handle prepayments?

3.4 Claims
- a) Does the system claim on a given system?
- b) What is it?
- c) Can it be adjusted?
- d) Are claims reviewed before mailing?

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BCUC FEATURE COMPARISONS -- ACQUISITIONS (CONT'D)

CRITERIA

3.5 Fund Accounting

a) Does the system provide for fund accounting?

b) How many subfunds or levels of funds are provided?

c) What information does the funding accounting record contain?

d) Does the system encumber?

e) Can totals be carried over from year to year?

f) Can the user overencumbered by a a designated amount?

g) What kind of fund reports are available? What is the frequency?

3.6 Receiving

a) How are partial shipments handled?

b) How are returns and requests for credits handled?

c) Are damaged books or wrong books automatically reordered?

3.7 Purchase Orders

a) Are purchase orders generated on a regular schedule or on demand?

b) Are orders from different libraries to the same supplier combined?

3.8 Are tapes from or to the supplier read into the system or generated by the system?

BIBLIOCENTRE

BCUC FEATURE COMPARISONS -- ACQUISITIONS
(CONT'D)

CRITERIA

0 What kind of management reports are generated?

4.1 Vendor performance

4.2 Average price for classes of books/materials

4.3 Fund status

4.4 In-process status

4.5 Outstanding orders

.0 Printed Products

5.1 Purchase orders

5.2 Claims

5.3 Cancellations

5.4 Notification of receipt of items ordered by specific persons

5.5 Routing slips

5.6 Vendor reports

0 Linkage to other subsystems

6.1 What is the link to the cataloging subsystem?

6.2 What is the link to the authority control subsystem?

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BCUC FEATURE COMPARISONS -- ACQUISITIONS (CONT'D)

CRITERIA	
6.3 What is the link to the aerials control subsystem?	
6.4 What is the link to the public access subsystem?	

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BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	
0 General Information	
1.1 Is there an automated authority control system in operation?	1.1 Yes.
1.2 How long has it been in use?	1.2 March 2, 1979.
1.3 How many authority records are there now (as of August 1979) list source and number per source a) total authorities b) total names c) total subjects d) total cross reference e) local headings	1.3 The following are actual run counts rounded to the nearest 1000 as of January 1980. a) total, including 411,000 class numbers 135,000 ISBN numbers 66,000 publishers in addition to names and subjects. b) 319,000 names c) 162,000 subjects d) The DOBIS system provides automatic permutation of titles and corporate names, which refer to the correct from. There are 1,043,000 permuted titles referring to 401,000 titles and 126,000 permuted names referring to the authorized form of the corporate names (a separate count is not available). The source records for the Bibliocentre which were loaded in March 1979 did not include authorities; thus, subject cross references were not provided. Cross references are now being entered, but the count is still low. e) None. The Bibliocentre follows LC practice exclusively.
1.4 Are the LC MARC authorities an input to the system? a) names b) subjects	1.4 Not now, but they will be as soon as they are available.
1.5 What are the other sources for input? e.g., NLC	1.5 Both LC and NLC authority tapes are on order and will used when they're delivered. They are planned for use as part of the authenticati process.
.0 File Organization	
2.1 Diagram of file layout attachments ____	2.1 The standard DOBIS/LIBIS structure is used. However, all member library holdings are placed in a single load library file, except Ryerson which is placed in a separate local library file.
2.2 What are files linked?	2.2 Standard DOBIS/LIBIS linkage.
2.3 Is the heading or an access number stored in the bib record?	2.3 Access number.
2.4 What does the authority record look like, i.e., data elements?	2.4
2.5 Does the heading record have and display the source of the heading, e.g., LC, or local library symbol?	2.5 Yes.

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BIBLIOCENTRE

BCUC FEATURE COMPARISONS -- AUTHORITY CONTROL (CONT'D)

CRITERIA	
2.6 Does the heading indicate the rules by which it was created? e.g., AACR1, AACR2, LC interpetation.	2.6 The present records do not. They will have when the authority tapes are available.
2.7 Is this information used to suppress AACR2 headings until 1981?	2.7 No.
.0 Input Validation	
3.1 Are headings updated automatically on input?	3.1 Yes.
3.2 Is there a hierarchy of matching against authorities?	3.2 No.
3.3 Can it be set for each individual user?	3.3 No.
3.4 For groups of users?	3.4 No.
3.5 How are the LC tapes loaded and the file updated?	3.5 Not yet loaded.
3.6 Is batch update from user as well as LC possible?	3.6 Batch update from the user's bibliographic records is done, but not yet from authority records.
.0 Update	
4.1 When an authority record is changed, are all the linked records changed automatically? How is the owner of the bib linked record notified?	4.1 Yes. Bibliocentre users do not wish to be notified, however, such notification could be introduced.
4.2 Can an update replace any matching heading or is the replacement limited to matching records of the same source? E.g. LC update to LC heading, or LC update to any matching heading.	4.2 At present, all changes are manually initiated.

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BCUC FEATURE COMPARISON -- AUTHORITY CONTROL (CONT'D)

CRITERIA	
4.3 How are local headings handled when in conflict with one another and/or LC?	4.3 LC practice is followed as Bibliocentre policy. Under the DOBIS structure, a separate bibliographic record could be set up which used a variant heading which would appear separately in the DOBIS index.
.0 Other Services and Products	
5.1 Are there cross references and notes (scope)?	5.1 They are being input slowly.
5.2 Are there bilingual headings?	5.2 No.
5.3 Are the authority records and cross references used in production of batch products? a) catalog cards b) book catalogs (in print or microfilm)	5.3 a) b)
5.4 Can a user request a tape of bib and authority records in LC MARC communications format?	5.4 No. DMARC is provided and LCMARC is planned.
5.5 Other authority batch or off-line products?	5.5 No.
.0 Linkages to Other Subsystems	
6.1 Is the authority file linked to the circulation files?	6.1 Yes.
6.2 Is the authority file linked to the acquisition files?	6.2 Yes.

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS

CRITERIA	
1.0 Catalog Cards	
1.1 Are cards available for all MARC formats?	1.1 Yes.
1.2 How frequently are they produced?	1.2 On a 15-minute cycle.
1.3 Describe categories where options in format are available. Attachment of card profile.	1.3 The format is exactly the same for all libraries. There are no options.
1.4 Can cards be pre-sorted?	1.4 No.
1.5 Are cross reference cards available?	1.5 No, but specifications have been done.
2.0 Labels	
2.1 Are book labels produced?	2.1 Yes.
2.2 Spine lables	2.2 Yes.
3.0 Edit Lists	
3.1 How are records selected for edit lists?	3.0 All editing is on-line. Paper flow is discouraged.
3.2 What information is available?	
3.2 How frequently are they produced?	
3.4 Are edit lists accompanied by error listings? When?	
4.0 COM	
4.1 Are both microfiche and microfilm available?	4.1 Bibliocentre has produced microfiche catalog
4.2 What reduction ratio?	4.2 42X.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS (CONT'D)

CRITERIA	
4.3 Do you produce or subcontract the fiche or film generation?	4.3 Subcontract
4.4 Are all MARC formats available in microfilm?	4.4 Yes.
4.5 Are both full and abbreviated entries possible in:	
a) the same catalog?	4.5 a)
b) different catalogs?	b) The options are limited at present the same basic information displays in all catalogs, but the sequence changes.
4.6 Sequences available:	
a) author (including added entries) separate	4.6 a) Yes.
b) title separate	b) Yes.
c) subject separate	c) Yes.
d) shelf list (LC and Dewey)	d) Not yet, but will produce a shelf list.
e) author and title combined	e) No.
f) author, title and subject combined	f) No.
g) crossed catalog	g) No.
4.7 Are union catalogs available? Cite examples of existing union catalogs.	4.7 The system has the ability, but a union catalog is not presently produced.
4.8 Frequency of generation:	
a) master only	4.8 a) Monthly.
b) master plus supplements - weekly, monthly, bimonthly, semiannual, quarterly.	b) Capability for supplements is available and there are no plans to implement, because Bibliocentre views supplements as counterproductive.

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS
(CONT'D)

CRITERIA	
4.9.a Are there cross references in the catalogs?	4.9 a) That will be in the catalog when they are in the data ase.
4.9.b Is there a check for blind references?	b) No.
0 Magnetic Tapes	
5.1 Are these available in the LC MARC communications format?	5.1 No.
5.2 Other formats for tape delivery.	5.2
5.3 Frequency of tape generation. One time, on demand, weekly, monthly, quarterly, annual.	5.3 On demand
0 Paper Catalogs	
6.1 Are the same kinds of catalogs available on paper as microfilm? Explain differences	6.1 Yes, but Bibliocentre has no desire for them.
6.2 Are photocoposition catalogs available?	6.2 No.
6.3 Are computer lineprint lists available?	6.3 Yes.
) Miscellaneous	
7.1 Are microforms of the resource database or portions available?	7.1 Yes, but they are not now produced. The system also produces punched tab cards for machine circulation systems.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT

CRITERIA	
) General Knowledge	
1.1 Is the resource file MARC compatible?	1.1 Yes, both LC MARC and CAN MARC records can be loaded but monographs and serials are the only formats now handled by DMARC. Bibliobentre preserves all incoming content in some location. E.g., title overflow (past 256 characters) is placed in notes field.
1.2 What data fields have been dropped?	1.2 Intellectual levels and cross reference entries are not carried.
1.3 What data fields have been added?	1.3 A.V. format was previously developed and is used.
1.4 What data fields have been changed?	1.4 The LC and CAN MARC formats are both translated into the "DMARC" format.
1.5 What fields are available for local (i.e., user) data?	1.5 Bibliocentre has a policy of not allowing local variations, so only in the local holdings file is there institution specific data.
1.6 Can an LC MARC communication file be created as output?	1.6 Not at present, output is in "DMARC".
) Describe the record structure.	2.0 See IBM DMARC
What are the enforceable standards for quality of data input?	3.0 All data input goes directly on-line. For book processing, the last stage before shipment is quality control. The catalogers are completely on-line. There is supervising review through random checking of the work. Special attention has been given to upgrading the typing skills of the catalogers.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT (CONT'D)

CRITERIA	
How is a new record released for general use?	4.0 The record is on-line and available immediately on input.
What other means can be used to release records?	5.0 None.
What verification is needed for a new record--the manual and system components?	6.0 In the input of new MARC records, any oddities in the file are noted for separate follow-up and correction by another person.
Duplicate Records	
7.1 How are duplicate records identified?	7.1 - 7.3 They are manually detected on a search after request for a transfer of the MARC record has been honored. MARC records are kept in a separate source file and are not taken across to the DOBIS system unless needed. Users do not want to change cards so duplicate MARC records are not carried across. If they were, there is no programming to detect duplicates automatically.
.2 If an LC record is updated, are all user holdings updated?	
7.3 If LC releases a record that matches a non LC record, what happens?	
7.4 If other resource subscription records,	7.4 a) Same as 7.3.
a) match an existing LC record, what happens?	
b) match a user record, what happens?	b) Same as 7.3
7.5 In a union catalog, how are duplicates identified and resolved?	7.5 The same bibliographic record is used for the multiple holdings.

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	
0 General Information	
1.1 What is the system name?	1.1 DOBIS/LIBIS
1.2 How many systems are installed?	1.2 At least two - Leuven and Ryerson College
How long has oldest been in use? Newest?	Oldest - Leuven Newest - Sept. 1979.
1.3 Are all MARC formats handled by the circ system?	1.3 However, if catalogued all types of materials can be represented and circulated by the system.
a) monographs	a) Yes.
b) serials	b) Yes.
c) phono records	c) No.
d) films	d) No.
e) tapes	e) No.
f) maps	f) No.
g) microfilms	g) No.
1.4 Does the system have the following functions in operation now:	1.4
a) charge	a) Yes.
b) discharge	b) Yes.
c) renew	c) Yes.
d) holds (name in queue for book)	d) Yes.
e) reserves	e) Yes.
f) film and audiovisual bookings	f) No.
g) interlibrary loan	g) Yes, but not implemented at Bibliocentre.
h) branch	h) Yes.
i) fine calculation & payment of fines	i) Yes.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- CIRCULATION
(CONT'D)

Criteria	
1.5 Does the system have the following functions in operation now: (CONT'D)	
j) recall	1.5 j) Yes.
k) carrels	k) No.
l) in-process monitoring	l) in the DOBIS software
m) record - count of all reshelving, i.e. also in library use of material.	m) No.
1.6 What are the loan periods available and in use?	1.6 The system allows six different loan periods. The user may implement whatever they choose.
1.7 What are the types of borrowers?	1.7 The system allows ten different borrower types.
1.8 How is a book charged if either the book has no circ identification or the borrower does not have his card?	1.8 The information may be keyed into the terminal. However, as used for Ryerson, the books are labeled and the file record set up before charge.
1.9 Public Access	
a) Can the patron search the book files?	1.9 a) The system has that capability, but terminals are not yet available.
b) Where is this being done now?	b) It is not.
c) How long has it been in use?	c) N/A.
.0 Book Information	
2.1 What is the book identification? bar code, book card, etc.?	2.1 IBM Bar Code
2.2 What is the book or title record format?	
a) fixed or variable	2.2 a) Variable
b) max characters (average characters)	b) None
c) MARC format	c) On-line version of DMARC

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA	
2.2 What is the book or title record format? (CONT'D)	
d) derived from MARC format	2.2 d) Yes.
e) data compression - what?	e) No.
2.3 What information is in the book/title record?	2.3 In the copy level record there is copy number, master number, call number, call number supplement, notes, status type, status date, current location in the library, material type, permanent location, plus systems holdings and the system level bibliographic record and access points.
2.4 What are the access points to the book/title file?	
a) author	2.4 a) Yes.
b) title	b) Yes.
c) ISBN	c) Yes.
d) book number	d) Yes.
e) search key, describe	e) No.
f) subjects	f) Yes.
g) call number	g) Yes.
0 Borrower Information	
3.1 What is the borrower card identification? bar code label on student id card, etc.	3.1 IBM bar code on a patron id.
3.2 What is the patron or borrower record format?	
a) fixed or variable	3.2 a) Variable
b) max &/or average characters	b) No maximum

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BCUC FEATURE COMPARISON -- CIRCULATION
(CONT'D)

CRITERIA	
3.3 What information is in the borrower file?	3.3 Borrower name, number, type, mailing address, other address, telephone number, codes for locally defined tables, date of last charge, whether blacklisted, whether borrower should be trapped, list of copies on loan, list of titles on hold, list of fines due, list of fines paid.
3.4 How is the borrower file accessed? a) patron name b) patron ID number	3.4 a) Yes. b) Yes.
0 Printed Output	
4.1 Does the system generate a date due slip?	4.1 Yes, but not implemented at the Bibliocentre.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	4.2 Yes.
4.3 Recall notices?	4.3 Yes, but not implemented at the Bibliocentre.
4.4 Fines?	4.4 Yes.
4.5 Hold availability?	4.5 Yes.
4.6 Management reports? a) circulation statistics b) weeding lists c) more copies needed d) other - describe	4.6 Yes, but not implemented at the Bibliocentre.
) Software	
5.1 What is the programming language?	5.1 PL/1 with some assembly.
5.2 Who maintains the software?	5.2 The purchaser of the system.
5.3 How many programs are in the system?	5.3

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BIBLIOCENTRE
BCUC FEATURE COMPARISON -- CIRCULATION
(CONT'D)

CRITERIA	
5.4 What percent of the programs have been in operation for more than six months?	5.4 All of the system has been in operation elsewhere more than six months.
5.5.a. How does the circulation system interface with the mainframe system? b. Is there a tape transfer of data? c. Is there or when will there be a computer to computer transfer of data? d. What is the protocal for this? e. Will other systems (other circ systems) be able to emulate this transfer?	5.5 a) It is part of the mainframe system. b) Not needed. c) Not needed. d) Not needed. e) Not known.
5.6 What are the future development plans?	5.6 Any development plans by IBM have not been revealed.
5.7 With other functions be loaded onto this system, such as acquisitions, serials check-in, public access?	5.7 Yes.
Hardware	
6.1 Describe the hardware configuration and the file capacity as you have designed it.	6.1 IBM 370 compatible system. The file capacity is essentially unlimited, but the number of libraries supported in separate files may be limited by the number of files that can be held open by the operating system.
6.2 Terminals - are there different terminals, for specific usage, e.g. check-out terminals, staff use terminals?	6.2 The terminal is the 327X display with an IBM 5926 - B03 optical bar code scanner attached.
User Instruction	
7.1 Is there user documentation?	7.1 Not for the terminal operator - prompting is built into the system. There are IBM guides for installation and operation.
7.2 How is it organized?	7.2 By function.
7.3 How is it updated?	7.3 There are no announced plans for IBM to update the manual.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA	
7.4 How frequently is it updated?	7.4 Dependent on IBM.
) Costs	
8.1 How is the institution charged for the system?	8.1 A license to use the DOBIS/LIBIS system is available from IBM either on a purchase or a two-year full payment lease basis. If a library would like to make use of the work that Bibliocentre has done, the Bibliocentre will act as an agent for the purchasing institution, obtain the basis system from IBM, incorporate the changes and controls that the Bibliocentre has set up, and provide the system in both load module and source code formats. In this way the library will have an immediately operationaly system. Operational system $25,000 Canadian in Canada; $25,000 U.S. in the United States; and $42,000 U.S. elsewhere. Programs from any MARC to DMARC $9,000 Canadian in Canada; $9,000 U.S. in the United States; and $9,000 U.S. elsewhere. If desired, the Bibliocentre will also load source bibliographic files into DOBIS before delivering the system. Fees for this must be quoted separately.

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BIBLIOCENTRE

FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT

CRITERIA	
0 File Organization	
1.1 Describe mainframe resource and user file structure.	1.1 See attached.
1.2 How are individual holdings and union holdings accommodated in the file structure?	1.2 Holdings are all in one local library file. In addition Ryerson's have been copied in a separate file in order to support circulation. The display of holdings may be for one library file or all, depending on the access authorization.
1.3 Describe the file relationships between mainframe files and mini-based files.	1.3 All files are mainframe files. Records are transferred from the MARC to the DOBIS files on an immediate but batch basis. LC number selection or ISBN number selection issued.
.0 File Maintenance	
2.1 How frequent y are the source files updated?	2.1 There is a batch update of the MARC file when a MARC tape is received.
2.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing, or instantly?	2.2 Immediately.
.0 File Security	
3.1 How would you know if you lost data?	3.1 Nightly there is a fast copy to tape. At that time failure to read block would be noted. Weekly there is a logical "unload" of the file to the DMARC format; approximately every four weeks, a batch reload of DMARC file, at this time one would discover missing pointers if there were an incomplete write. The DOBIS Journal would be used to detect this the next day.
3.2 When was the last time you lost data that was unrecoverable?	3.2 No loss that is known, since the original loading of the files in March 1979. At that time 148 records out of 400,000 had to be entered manually due to data errors. errors.
3.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.	3.3 All access and modification is controlled by a hierarchical authorization structure each person is assigned an access code used at sign-on, which defines the facilities which may be used.

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BIBLIOCENTRE

FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT (CONT'D)

CRITERIA	
0 Response Time	
4.1 What is the average response time for the last six months?	4.1 Response time measurements are not maintained. The 370/148 is dedicated to the Bibliocentre, and it has 28 terminals attached to it. As a result, response time is characteristically a few seconds.
4.2 How does the file architecture take response time into consideration?	4.2 DOBIS is built with its own file managemnet based upon the use of file handling facilities imbedded in the operating system.
4.3 How long (in computer cpu execute time) does it take to pull an individual file of 30,000 bib records? A union file of four institutions of 60,000 records?	4.3 Separate batch routines have been written for rapid file extraction (e.g. for monthly COM runs) but run times are not available.
.0 System Reliability	
5.1 What has been the up-time percentage for the first six months of 79?	5.1 Formal records are not maintained, however overall about 10 minutes per week has been lost during the last 6 months. The last production system crash was 2-3 weeks ago. The system was back in operation in about 10 minutes; the bug search and correction 2 days. Per day the last six months a couple dozen program bugs have been found and shot.
5.2 How has that differed from 1978?	5.2 There was a continuing reduction in the number of program bugs causing operation interruptions.
5.3 What are main components of the down-time (i.e. causes)?	5.3 Having dual controllers for the disks has been very important in maintaining up-time. Program bugs were causing failures. The system is now stable - both hardware and software, with no single source at failure being most important.
5.4 For first six months of 1979?	5.4 Program bugs which have been eliminated.

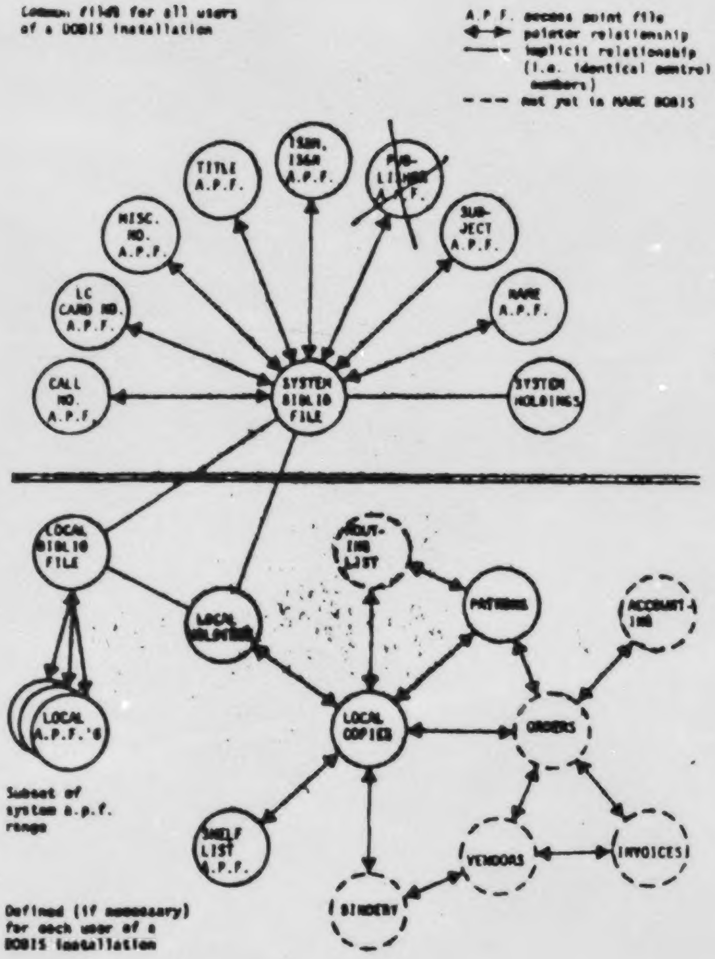
Common files for all users
of a DOBIS installation
A.P.F. access point file
pointer relationship
implicit relationship
(i.e. identical control
numbers)
not yet in MARC DOBIS
TITLE A.P.F.
ISBN, ISSN A.P.F.
PUB-LISHER A.P.F.
MISC. NO. A.P.F.
SUB-JECT A.P.F.
LC CARD NO. A.P.F.
NAME A.P.F.
CALL NO. A.P.F.
SYSTEM BIBLIO FILE
SYSTEM HOLDINGS
LOCAL BIBLIO FILE
ROUT-ING LIST
PATRONS
ACCOUNT-ING
LOCAL HOLDINGS
LOCAL A.P.F.'S
LOCAL COPIES
ORDERS
Subset of
system a.p.f.
range
SHELF LIST A.P.F.
VENDORS
INVOICES
BINDERY
Defined (if necessary)
for each user of a
DOBIS installation

FIGURE 1. MARC DOBIS Data Base Overview

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- GENERAL MANAGEMENT AND ORGANIZATION

CRITERIA	
1.0 Organization	
1.1 Provide an organization chart	1.1 See attached.
1.2 How many people are involved in each of the major units?	1.2 67 persons total, including: 6 professional cataloguers, line 3 computer operators 3½ fte consultants assigned to acquisitions, cataloguing and circulation systems development and maintenance. 4 management personnel (to the Bibliocentre Project Lender)
1.3 How many staff are directly involved in running the system?	1.3 3.
2.0 Development Funding	
2.1 How will development of new subsystems and features be financed?	2.1 Within the budget of the Bibliocentre which is comprised of a constant level of funding from the Ontario Ministry of Education, plus user fees.
3.0 User Participation	
3.1 How do the users indicate their preferences for system development?	3.1 While organized as a business, the Bibliocentre has a users advisory group which has indicated preferences and helped to set standards.
4.0 Growth	
4.1 What is the potential growth over the next three years?	4.1 Specific growth not indicated.
4.2 Where will this growth come from?	4.2 Possible public library participation and expansion of services to present members.
4.3 Will new features and systems be required to obtain this growth?	4.3 Only those features currently being implemented under the DOBIS/LIBIS system - acquisitions and circulation.

ORGANIZATION

Centennial College of Applied Arts
and Technology
Scarborough, Ontario, Canada

President

- Vice President - Administration
  - J. Patrick Ellwood
- Overall Projects Leader - Maneck Khambatta
  - Bibliocentre Division

    Acquicap (Acquisitions, Cataloguing and Processing) (67 persons)

    Director, Doreen Carpenter
    Asst. Director - Systems, Douglas Wentzel (part-time)
    Asst. Director - Operations, May O'Brien
      - Head, Cataloging
        - Professional Cataloguers (6)
      - Purchasing, receiving, packing, shipping, invoicing, accounting, etc., (50.5)

    Learning Packages - Director, Muhsin Jaffer
    and three special staff
    (Also supported by other Bibliocentre Staff)

    Bibliocomputer - Douglas Wentzel (part-time)
      - Computer Operators (3)

    Consultants - System Development & Maintenance
      - Acquicap - 3-1/2 FTE
      - Learning Packages - 1 FTE

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- PUBLIC ACCESS

CRITERIA	
eneral Information	
.1 Is there a public access system?	1.1 Yes, but search is presently done by a reference librarian to control level of use.
.2 How long has it been in use?	1.2 Sept. 1979 into Public Service area.
How many users are on the system?	1.3 1 terminal at present at Ryerson Polytechnical Institute.
earch	
.1 What files are available for searching?	2.1 Bibliographic titles with all access points.
.2 How can the files be searched?	2.2 File search is controlled by authorization code. At present search is authorized for the library's holdings.
ystem Messages	
Does the system prompt the user?	3.1 Yes by menu selection but not by "help" function.
2 Is there menu selection for functions?	3.2 Yes.
Are the system explanations expandable, i.e. novice and expert?	3 3 Displays are not expandable, but for the expert, the displays can be bypassed through quickly by command chaining. (Source critical displays are designed so that can't be bypassed.)

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- RECON METHODS

CRITERIA		
1.0 What are the recon input methods?	1.0	
a) batch	a) Yes.	
b) on-line	b) Yes.	
2.0 What are the recon access keys?	2.0 Batch	On-line
a) LC no.	a) Yes.	Yes.
b) ISBN no.	b) Yes.	Yes.
c) ISSN no.	c) No.	No.
d) author	d) No.	Yes.
e) title	e) No.	Yes.
f) system id no.	f) Yes.	Yes.
3.0 What is the turn-around with the batch input?	3.0 The batch processing is performed on demand throughout the day.	
4.0 What are the differences in service, products, and costs with the on-line recon service as compared to the regular on-line cataloging service?	4.0 These services are not separately priced, but have been carried out as part of the transfer of the member libraries onto the DOBIS system.	
5.0 How many users are using the recon facility for recon purposes?	5.0 None at present.	
6.0 Is the entire data base and system facilities available for recon? If not, what is available?	6.0 Yes.	

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION

CRITERIA	
1.0 What information is given to the institution who chooses to replicate the software?	
1.1 System documentation	1.1 IBM and a change file which lists each problem encountered and the nature of the change that was made.
1.2 Program documentation (including macros, tables, subroutines, utilities)	1.2 Yes.
1.3 Is the replicated institution given source or object code?	1.3 Both.
1.4 Run instructions	1.4 Yes. (In IBM libraries.)
1.5 run jcl	1.5 Yes.
1.6 Control forms	1.6 Yes.
2.0 What is the training program for replication?	2.0 The Bibliocentre would work out the specific training needed. All training would be on site at the Bibliocentre.
2.1 Operations staff	2.1 Operations staff would learn the Bibliocentre procedures.
2.2 Programming staff	2.2 Programmers should know OS PL/1 and Assembly (there is minimum use of CICS).
2.3 Control staff	2.3 Control is integrated with operations.
2.4 'Network' staff	2.4 Bibliocentre does not operate with a separate "network" staff.
2.5 What recourse does the replicated user have to resolve problems during the first year of operations?	2.5 The Bibliocentre license will require that any problems encountered or any changes made be reported to the Bibliocentre - with comparable information being provided by the Bibliocentre. While there is no commitment to fix problems reported, the intention is to share expertise in the improvement of the system.
3.0 What is the procedure for bringing up the software in the replicated facility?	3.0 The Bibliocentre will act as an agent of the replicated facility in obtaining a license and a copy of DOBIS/LIBIS software from IBM. It will then load any existing data base the facility wishes to have preloaded and then it will transfer a copy of the Bibliocentre's DOBIS/LIBIS system in load module form, complet with the loaded data base. It will supply source code for the system as well.
4.0 What is the acceptance test criteria?	4.0 Not defined.
5.0 What happens to any guarantees or warranties, if the software is modified?	5.0 The software is supplied without guarantee or warranty.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION (CONT'D)

CRITERIA	
) Does the replicated institution receive software updates, as well as documentation updates?	6.0 Yes, software updates on existing programs would be available on a bidirectional basis. Also, reports of any bugs would be desired by the Bibliocentre. Documentation updates are expected to be infrequent.
) Staff	
7.1 How many staff are needed to run a replicated system?	7.1 Program maintenance requires less than one fte. The Bibliocentre has a development staff of four fte and expects to have the LIBIS acquisitions module in operation by the end of Summer 1980, and ready for external delivery by December 1980. Computer operators are 1 per shift, and 1/2 fte for systems support.
7.2 What would each staff member's responsibility be?	7.2 Bibliocentre's staffing of the computer operation is flexible. The operators carry out all the regular operational tasks. The supervisors and programmers fill in in the event that an operator is not available.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	
1.0 Files	
1.1 Resource files can be searched by:	
a) LC no.	1.1 a) Yes.
b) ISBN no.	b) Yes.
c) ISSN no.	c) No.
d) System no.	d) Yes.
e) Author key	e) No.
f) Author words	f) Yes for corporate author; personal author by last name.
g) Title key	g) Permuted title not search key.
h) Title words	h) Yes.
i) Subject	i) Yes.
1.2 Authority file	
a) System no.	1.2 a) No.
b) Words	b) Corporate author, yes; title, yes; subject, no.
c) Key	c) No.
1.3 Library bib files	
a) LC no.	1.3 a) Yes.
b) ISBN no.	b) Yes.
c) ISSN no.	c) No.
d) System no.	d) Yes.
e) Author key	e) No.
f) Author words	f) Corporate author, yes; personal author by last name.
g) Title key	g) No.
h) Title words	h) Yes.
i) Subject	i) Yes.
2.0 SEARCH Types	2.1 Yes, controlled by access authorization code.
2.1 Is there a search only capability?	2.2 Through all of the access files.
2.2 Is it possible to browse through files? Which ones?	2.3 Yes, variable length keyed access forward and backward browse.

BIBLICENTRE

BCUC FEATURE COMPARISON -- SEARCH (CONT'D)

CRITERIA	
2.3 Can one browse through the authority files, and then display bib records?	2.3 Yes.
2.4.a Does the system handle Boolean Searches? b. What are the limits to the use of the Boolean capability - size and procedures?	2.4 a) No. b) -
2.5 Is there a novice and expert method of searching?	2.5 Yes, in the sense that one can perform command "chaining" in order to by-pass the intermediate display at selection screens.
2.6 a Is the search logic designed for the public or for library employees? b Is anyone presently using the system for direct patron inquiry?	2.6 a) Either - minimal knowledge of catalogs is required. b) Not on the Bibliocentre system.
2.7 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	2.7 Yes, by command chaining. E.G., /S/6 gives the sixth item on the short list.
2.8 Can the search be referred so that further searches are made on the hits?	2.8 No.
2.9 Can a heirarchy of source databases and other library databases be established for matching?	2.9 No.
3.0 Display	
3.1 If the system retreives more than one match, what information is displayed?	3.1 Author, title, date and document number.

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- SEARCH
(CONT'D)

CRITERIA	
3.2 If one record matches the key, does the system display the full record immediately?	3.2 No. The index is displayed first.
3.3 When a hit is displayed, are the holdings codes of other insititutions also displayed?	3.3 Yes. All holdings are maintained in the same file. In addition, Ryerson's holdings are in a separate local file to support circulation control.
3.4 Can the searcher request to view another users record at this point?	3.4 Yes, unless a separate file is to be searched; then the search request must be re-entered.
3.5 What is the maximum number of hits by search types? What happens when a user hits this number?	3.5 Since it is browsing search, there is no maximum number of hits.

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BIBLIOCENTRE

BCUC FEATURE COMPARISON -- SERIALS

CRITERIA	
General Information	
1.1 Is the serials subsystem working?	1.1 No.
1.2 How long has it been operational?	1.2 N/A.
1.3 How many users are there? Who are they?	1.3 None.
1.4 Are the conser records available as a resource file? How many?	1.4 Assuming CONSER records are in LC MARC serials format, they can be loaded.
What functions does the subsystem perform?	
2.1 serials check-in	2.1 No.
2.2 serials claim	2.2 No.
2.3 subscription monitoring (ordering, renewal, cancellation)	2.3 Subscription monitoring is done in the acquisition module, in LIBIS.
2.4 binery control	2.4 No.
2.5 Can holdings be used in a summary fashion as well as detailed holdings?	2.5 This is a policy option. Summary holdings may be stored in the summary holdings file, and detailed holdings may be stored in the local copy file.
Linkage to other subsystems	
3.1 What is the linkage between serials and acquisition?	3.1 Serials may be purchased through the acquisition system.
3.2 What is the linkage to the circulation and public access?	3.2 Serials may be circulated if there is local copy information.

BIBLIOCENTRE

BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	
1.0 Is the documentation indexed?	1.0 No - there is a detailed table of contents and a list of figures in each manual.
2.0 Are there samples of the procedures within the text?	2.0 Some.
3.0 Does the documentation follow the different operations from beginning to end?	3.0 No, each operation is described separately and fully. The intent in designing the system was to make it such that users did not need to refer to instructions or manuals to use the system.
4.0 Preparation	
4.1 What is the procedure for creating and releasing new or updated documentation? Who is responsible for writing? Who reviews the draft?	4.1 If the updates are short, separate updated pages are issued.
4.2 What is policy on features? the documentation accompanies the announcement of a new feature? are there guinea pig users who check out a new feature prior to general announcment of the features release?	4.2 Not applicable. The software is not an IBM program product. So while IBM corrects bugs, there is not a formal plan for enhancements or updates.
5.0 What portions of the system are not included in the user documentation?	5.0 There are some manuals on everything - to install and implement the software, and to give a general description of the software package.
6.0 Updates	6.0 The documentation is not subject to continuous revision and update.
6.1 How often is the user documenation updated?	
6.2 What is the date of the last update?	
7.0 Is the documentation clear and easy to use? understandable?	7.0 Yes.

APPENDIX E

FEATURES COMPARISON

IBM DOBIS INFORMATION

IBM

BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	
1.0 General Information	System name is LIBIS
1.1 How long has the acquisition system been operational?	1.1 Although the system was tested and accepted by the Catholic University of Leuven in 1979, it has not yet been used in regular operation as of March, 1980.
1.2 How many libraries are using the system currently?	1.2 Catholic University of Leuven.
1.3 How long has each used the system?	1.3 na.
1.4 Types of materials handled? a) monographs b) microfilms c) films d) phonorecords e) maps f) kits g) subscriptions h) standing orders, and approvals i) gifts & exchanges j) added copies	1.4 Any material type that the user wishes to define. The standard is six material types and 10 borrower types for the circulation portion, but larger non-standard control tables could be developed.
1.5 Is the LC MARC file and/or other resource files used for order input and verification?	1.5 Not now.
2.0 Files	2.0
2.1 Describe the files and their interrelationship.	2.1 Two access-point files: vendor and library fund, and an order file are used in addition to the bibliographic files. Because holds may be placed on copies on order, the circulation files (borrower name and number, circulation) should also be present.
2.2 What information is in the in-process record a) author b) title c) publisher d) supplier	2.2 All the listed information is included as well as a number of additional fields.

IBM

BCUC FEATURE COMPARISON -- ACQUISITIONS (CONT'D)

CRITERIA	
2.2 What information is in the in-process record? (CONT'D) e) order date f) price g) prepayment indication h) type of material i) rush indicator j) po number k) fund	2.2 All the listed information is included as well as a number of additional fields.
2.3 How are the in-process files accessed?	2.3 Access is provided by vendor, fund, borrower name and number (if ordered for a borrower), and all bibliographic access-point files, as well as by document number and order number.
2.4 What information does the vendor file have?	2.4 Vendor name and mailing address, shipping address, phone number, order form type, payment type, currency, acquisitions type, claim category, and history information, total number of copies received, total days of time delay, total cost, total postage and packing cost, average days of delay, average cost, average postage and packing cost, list of orders placed with this vendor.
2.5 Who keeps the vendor file current?	2.5 This is a policy decision made by each licensee.
3.0 System Features	3.0
3.1 Does the user in-process file have cancellations? For how long? With reasons for cancellation?	3.1 The claim policy (separate for each library in the network) determines when first, second, and third claims are to be sent and when the order is to be cancelled automatically. It is also possible to cancel an order manually.

IBM

BCUC FEATURE COMPARISON -- ACQUISITIONS (CONT'D)

CRITERIA	
3.2.a. How are foreign currency conversion rates updated?	3.2 a) By changes in the currency conversion table.
3.2.b How frequently?	b) Whenever the user needs to make the changes.
3.3 Does the system handle prepayments?	3.3 Yes.
3.4 Claims	3.4
a) Does the system claim on a given system?	a) Yes.
b) What is it?	b) Set by each licensee.
c) can it be adjusted?	c) Yes.
d) Are claims reviewed before mailing?	d) Policy question decided by each licensee.
3.5 Fund Accounting	3.5
a) Does the system provide for fund accounting?	a) Yes.
b) How many subfunds or levels of funds are provided?	b) No.
c) What information does the funding accounting record contain?	c) Fund, beginning date of fiscal period, amount changes, date of change, user making the change, amounts available, committed, spent, list of orders charged against the fund, list of debit and credit notes issued against the fund, number of copies received, average cost of a copy.
d) Does the system encumber?	d) Yes.
e) Can totals be carried over from year to year?	e) Not automatically - but the user can set up a second set of funds for a new fiscal year.

IBM

BCUC FEATURE COMPARISONS -- ACQUISITIONS
(CONT'D)

CRITERIA	
3.5 Fund Accounting	3.5
f) Can the user overencumbered by a designated amount?	f) The funds can be overencumbered.
g) What kind of fund reports are available? What is the frequency?	g) The user can use the report writer to generate custom management reports. A great deal of management data is displayed on the screens for funds and vendors.
3.6 Receiving	3.6
a) How are partial shipments handled?	a) An unlimited number of partial shipments and partial bills can be accomodated for each order.
b) How are returns and requests for credits handled?	b) Credits and debits can be entered on the system.
c) Are damaged books or wrong books automatically reordered?	c) Books should be inspected before being received. If they are damaged or wrong, the fact that the wrong document was sent should be noted in the order record and the book returned.
3.7 Purchase Orders	3.7
a) Are purchase orders generated on a regular schedule or on demand?	a) Queued then printed - basically on demand.
b) Are orders from different libraries to the same supplier combined?	b) No.
3.8 Are tapes from or to the supplier read into the system or generated by the system?	3.8 There is no reason why tapes in DMARC format cannot be loaded into the system. All order and bibliographic information can be supplied in DMARC format. Local programming is required for other output formats.
4.0 What kind of management reports are generated?	4.0 Much management information is available at the terminal. For example, the fund status, in-process status, and outstanding orders is available online. Status and outstanding orders are available from

IBM

BCUC FEATURE COMPARISONS -- ACQUISITIONS (CONT'D)

CRITERIA	
4.0 What kind of management reports are generated? (CONT'D)	4.0 (CONT'D) the usual large selection of bibliographic and acquisition access-points as well as by document and order number.
4.1 Vendor performance	4.1 There is no printed report, but the information is displayed in the vendor screens.
4.2 Average price for classes of books/ materials.	4.2 Not at present.
4.3 Fund status	4.3 In the fund screens this information is displayed.
4.4 In-process status	4.4 Not at present.
4.5 Outstanding orders	4.5 Not at present.
5.0 Printed Products	
5.1 Purchase orders	5.1 Yes - either single title per purchase orders or multiple titles per purchase order.
5.2 Claims	5.2 Yes.
5.3 Cancellations	5.3 Yes.
5.4 Notification of receipt of items ordered by specific persons.	5.4 Yes.
5.5 Routing slips	5.5 No.
5.6 Vendor reports	5.6 No hardcopy output - information carried in the vendor record and can be displayed on the CRT screen.
6.0 Linkage to other subsystems	
6.1 What is the link to the cataloging sub-system?	6.1 All the functions use the DOBIS files search, so there is an implicit link between acquisition and cataloging.
6.2 What is the link to the authority control subsystem?	6.2 The authority system is embedded in the DOBIS file structure so it is shared with the acquisition system.

IBM

BCUC FEATURE COMPARISONS -- AQUISITIONS (CONT'D)

CRITERIA	
6.3 What is the link to the serials control subsystem?	6.3 The acquisition system can handle serial subscription renewals.
6.4 What is the link to the public access subsystem?	6.4 There is a public access system. If a user has the appropriate authorization, acquisitions and circulation information is available as a part of searching.

IBM

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	
1.0 General Information	
1.1 Is there an automated authority control system in operation?	1.1 Authority control is integrated in the file design. There is no separate mechanism for authority control. The access points are searched before new ones are input. They are linked to the bib record, and the relatioship facility allows for cross references, and equivalences.
1.2 How long has it been in use?	1.2 May 1977
1.3 How many authority records are there now (as of August 1979) list source and number per source a) total authorities b) total names c) total subjects d) total cross reference e) local headings	1.3 Not applicable - IBM is not offering data files.
1.4 Are the LC MARC authorities an input to the system? a) names b) subjects	1.4 No, but there is no reason why the LC MARC authorities cannot be input to the system. A conversion program is needed from LC MARC authorities to D-MARC.
1.5 What are the other sources for input? e.g., NLC	1.5 No.
2.0 File Organization	2.0 Given the number of mistakes in this section, I would prefer to comment when I see the file layouts. There is a great deal of information about 2.4 which seems to be missing.
2.1 Diagram of file layout attachments ____	2.1 See attached.
2.2 What are files linked?	2.2 The access point files point to the primary records.
2.3 Is the heading or an access number stored in the bib record?	2.3 Access point.
2.4 What does the authority record look like, i.e., data elements?	2.4
2.5 Does the heading record have and display the source of the heading, e.g., LC, or local library symbol?	2.5 Subjects and names have source information in the notes field - not in a coded field that can be displayed succinctly or used in output products.

BCUC FEATURE COMPARISONS -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	
2.6 Does the heading indicate the rules by which it was created? e.g., AACR1, AACR2, LC interpetation.	2.6 This can be handled in the notes.
2.7 Is this information used to suppress AACR2 headings until 1981?	2.7 No.
3.0 Input Validation	
3.1 Are headings updated automatically on input?	3.1 Yes - in real time.
3.2 Is there a hierarchy of matching against authorities?	3.2 Not really - although a user could enter local access points in a local access point file. They could only be searched separately.
3.3 Can it be set for each individual user?	3.3 Each user can have local files.
3.4 For groups of users?	3.4 If groups of users had their own version of DOBIS - there would be no problem.
3.5 How are the LC tapes loaded and the file updated?	3.5 LC tapes converted into the unloaded format can be loaded by the system. All files are updated.
3.6 Is batch update from user as well as LC possible?	3.6 Batch update is possible, but additional program would be needed. This is the technique Centennial College used to load its files.
4.0 Update	
4.1 When an authority record is changed, are all the linked records changed automatically? How is the owner of the bib linked record notified?	4.1 a) Yes. b) The owner is not notified.
4.2 Can an update replace any matching heading or is the replacement limited to matching records of the same source? E.g. LC update to LC heading, or LC update to any matching heading.	4.2 If a user has a security level allowing her to change or add headings, she can change the LC headings or any others.

IBM

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL (CONT'D)

CRITERIA	
4.3 How are local headings handled when in conflict with one another and/or LC?	4.3 Local headings are put in the local authority files which are associated with the local catalog.
5.0 Other Services and Products	
5.1 Are there cross references and notes (scope)?	5.1 There are cross-references and notes for both system and local authorities. Two kinds of notes are available: the first for notes to be viewed by the public, the second for internal use by the cataloging staff.
5.2 Are there bilingual headings?	5.2 A user may search in either English or French (or some other dialog language) and always receives all headings.
5.3 Are the authority records and cross references used in production of batch products? a) catalog cards b) book catalogs (in print or microfilm)	5.3 Authority file records are used in the production of all catalog records.
5.4 Can a user request a tape of bib and authority records in LC MARC communications format?	5.4 DOBIS-LIBIS will produce such records in DMARC format. This in turn can be converted to whatever format desired by locally-written programs.
5.5 Other authority batch or off-line products?	5.5
6.0 Linkages to Other Subsystems	
6.1 Is the authority file linked to the circulation files?	6.1 All the DOBIS/LIBIS functions are based on the DOBIS file structure and search capabilities. Thus the circulation system uses the authority files and the other files unique to circulation activities.
6.2 Is the authority file linked to the acquisition files?	6.2 See 6.1, the same philosophy holds true for acquisition.

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IBM

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS

CRITERIA	At the time of the visit the batch products were not implemented in Canada.
1.0 Catalog Cards	
1.1 Are cards available for all MARC formats?	1.1 Monographs and serials only.
1.2 How frequently are they produced?	1.2 This is a policy decision made by each licensee.
1.3 Describe categories where options in format are available. Attachment of card profile.	1.3 Please see the LIBIS-Batch Program Description and Operations Manual, pages 51-55 for changes to the size of the layout. The contents of the card may be changed by the local institution.
1.4 Can cards be pre-sorted?	1.4 Yes.
1.5 Are cross reference cards available?	1.5 No.
2.0 Labels	
2.1 Are book labels produced?	2.1 Book labels can be produced online and in batch mode.
2.2 Spine lables	2.2 The report writer is used to print spine labels.
3.0 Edit Lists	
3.1 How are records selected for edit lists?	3.1
3.2 What information is available?	3.2
3.2 How frequently are they produced?	3.3
3.4 Are edit lists accompanied by error listings? When?	3.4
4.0 COM	
4.1 Are both microfiche and microfilm available?	4.1 Yes. The COM format is entirely up to the user. LIBIS-Batch produces a tape for processing on the appropriate equipment.
4.2 What reduction ratio?	4.2

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS (CONT'D)

CRITERIA	
4.3 Do you produce or subcontract the fiche or film generation?	4.3 Not applicable.
4.4 Are all MARC formats available in microfilm?	4.4 Monographs and serials are available.
4.5 Are both full and abbreviated entries possible in:	4.5
a) the same catalog?	a) No.
b) different catalogs?	b) Yes.
4.6 Sequences available:	4.6
a) author (including added entries) separate	a) Yes.
b) title separate	b) Yes.
c) subject separate	c) No.
d) shelf list (LC and Dewey)	d) Yes.
e) author and title combined	e) No.
f) author, title and subject combined	f) No.
g) crossed catalog	g) Yes.
4.7 Are union catalogs available?	4.7 Yes.
Cite examples of existing union catalogs.	
4.8 Frequency of generation:	
a) master only	
b) master plus supplements - weekly, monthly, bimonthly, semiannual, quarterly.	

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BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS (CONT'D)

CRITERIA	IBM
4.9.a Are there cross references in the catalogs?	4.9 a)
4.9.b Is there a check for blind references?	b)
5.0 Magnetic Tapes	
5.1 Are these available in the LC MARC communications format?	5.1 No.
5.2 Other formats for tape delivery.	5.2 D-MARC only.
5.3 Frequency of tape generation. One time, on demand, weekly, monthly, quarterly, annual.	5.3 A policy decision made by each licensee.
6.0 Paper Catalogs	
6.1 Are the same kinds of catalogs available on paper as microfilm? Explain differences	6.1 Yes, as long as a line printer is used to print. Information is given in the documentation about how to modify the printing for use with a 3800 (non-overstrike) printer.
6.2 Are photocoposition catalogs available?	6.2 Yes.
6.3 Are computer lineprint lists available?	6.3 Yes.
7.0 Miscellaneous	
7.1 Are microforms of the resource database or portions available?	7.1 Not at present.

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT

CRITERIA	IBM
1.0 General Knowledge	
1.1 Is the resource file MARC compatible?	1.1 The intention is for the data files to have MARC fields. The responsibility for keeping current with MARC data field changes is not well defined.
1.2 What data fields have been dropped?	1.2
1.3 What data fields have been added?	1.3
1.4 What data fields have been changed?	1.4
1.5 What fields are available for local (i.e., user) data?	1.5 The local catalogs can contain the same information as that in the system catalog (that is, the full MARC record). From a practical point of view, however, local ISBNs or local LC card numbers don't make much sense.
1.6 Can an LC MARC communication file be created as output?	1.6 Not with a program to convert from DMARC to LC MARC. LC MARC can be obtained from the system or input into the system. The DOBIS-LIBIS software defines an interface format (called DMARC for DOBIS-MARC) which is MARC-like in layout. Records converted to this format are added to the catalog by the the system. Records are also produced by the system in DMARC format for conversion by locally-written programs into other formats.
2.0 Describe the record structure.	2.0
3.0 What are the enforceable standards for quality of data input?	3.0 Because DOBIS-LIBIS is menu-driven, a cataloger always enters coded information correctly. Because authority-file search is part of the cataloging procedure and because existing authority-file entries can be selected from the files instead of being re-entered, the quality of cataloging is improved. In addition

IBM

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT

CRITERIA	
3.0 What are the enforceable standards for quality of data input? (CONT'D)	3.0 certain fields are required on all records entered: a main entry, a title, a date (where n.d. counts as a date), etc. Quality standards are policy decisions made by each licensee, and implemented via the security levels ability.
4.0 How is a new record released for general use?	4.0 The command is 'y' for 'yes' (in the English-language version) to release records for catalog update. This is done immediately when the cataloger finishes the input.
5.0 What other means can be used to release records?	5.0 None.
6.0 What verification is needed for a new record--the manual and system components?	6.0 The user must have a security level enabling him to input a record and access points.
7.0 Duplicate Records	
7.1 How are duplicate records identified?	7.1 On-line searching of existing access points and files is mandatory before input on a new record.
7.2 If an LC record is updated, are all user holdings updated?	7.2 There is no program to accept LC MARC subscription tapes, so the problems of duplicates have not been addressed.
7.3 If LC releases a record that matches a non LC record, what happens?	7.3 See 7.2
7.4 If other resource subscription records, a) match an existing LC record, what happens? b) match a user record, what happens?	7.4 See 7.2
7.5 In a union catalog, how are duplicates identified and resolved?	7.5 If the system file and system holdings structure have been followed, there is then one title with multiple users holdings attached - that is a union catalog. If the local bib file structure has been used in addition to the system file structure, then there are means to identify the duplicates between the system and local files.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	IBM
1.0 General Information	
1.1 What is the system name?	1.1 LIBIS - used with DOBIS.
1.2 How many systems are installed?	1.2 Two - Catholic University of Leuven and Ryerson Polytechnic.
1.3 How long has oldest been in use? Newest?	1.3 Leuven - 1978 Ryerson - 1979
1.4 Are all MARC formats handled by the circ system?	
a) monographs	1.4 a) Yes.
b) serials	b) Yes.
c) phono records	c) No.
d) films	d) No.
e) tapes	e) No.
f) maps	f) No.
g) microfilms	g) No.
1.5 Does the system have the following functions in operation now:	
a) charge	1.5 a) Yes.
b) discharge	b) Yes.
c) renew	c) Yes.
d) holds (name in queue for book)	d) Yes.
e) reserves	e) No.
f) film and audiovisual bookings	f) No.
g) interlibrary loan	g) Yes.
h) branch	h) Yes as a semi-permanent loan
i) fine calculation & payment of fines	i) Yes.

IBM

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

Criteria	
1.5 Does the system have the following functions in operation now: (CONT'D)	
j) recall	1.5 j) Yes.
k) carrels	k) The borrower's name can be added to the end of the carrel name and notes in both entries can be used to link the carrel and the usual borrower record. With this technique, borrowers can have more than one carral.
l) in-process monitoring	l) Yes - in the DOBIS software.
m) record - count of all reshelving, i.e. also in library use of material.	m) No. Counts of items on loan, reshelved, etc. are not kept online. They can be obtained from the journal records or from file content output with locally written programs.
1.6 What are the loan periods available and in use?	1.6 Standard system allows 6 user defined periods, but the due date clock is daily, not hourly, or less.
1.7 What are the types of borrowers?	1.7 The system allows ten different borrower types
1.8 How is a book charged if either the book has no circ identification or the borrower does not have his card?	1.8 The terminal operator enters the numbers at the keyboard.
1.9 Public Access	
a) Can the patron search the book files?	1.9 a) Yes, the patron must be able to read and follow instructions.
b) Where is this being done now?	b) Leuven.
c) How long has it been in use?	c) 1979.
2.0 Book Information	
2.1 What is the book identification? bar code, book card, etc.?	2.1 Bar code label
2.2 What is the book or title record format?	2.2
a) fixed or variable	a) variable
b) max characters (average characters)	b) 256 bytes per field
c) MARC format	c) The MARC data fields are in the record or can be added. The actual format is not MARC.

IBM
BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA	
2.2 What is the book or title record format? (CONT'D)	
d) derived from MARC format	2.2 d) A conversion program can be written from LC MARC to D-MARC. DOBIS-LIBIS is an integrated system. This means that bibliographic information is not duplicated in the circulation module because the circulation programs can make use of the records already in the catalog.
e) data compression - what?	e) No.
2.3 What information is in the book/title record?	2.3 In the copy level record there is copy number, master number, call number, call number supplement, notes, status type, status date, current location in the library, material type, permanent location, plus systems holdings, and the system level bibliographic record and access points.
2.4 What are the access points to the book/title file?	2.4 Same as DOBIS.
a) author	a) Yes.
b) title	b) Yes.
c) ISBN	c) Yes.
d) book number	d) Yes.
e) search key, describe	e) No.
f) subjects	f) Yes.
g) call number	g) Yes.
3.0 Borrower Information	
3.1 What is the borrower card identification? bar code label on student id card, etc.	3.1 Bar code.
3.2 What is the patron or borrower record format?	3.2
a) fixed or variable	a) Variable
b) max &/or average characters	b) No maximum.

IBM

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA	
3.3 What information is in the borrower file?	3.3 Borrower name, number, type, mailing address, other address, telephone number, codes for locally defined tables, date of lost charge, whether blacklisted, whether borrower should be trapped, list of copies on loan, list of titles on hold, list of fines due, list of fines paid. The date the last time the record was changed (not 'lost charge'), notes, and the copy and title holds are also fields which are included in the borrower record.
3.4 How is the borrower file accessed? a) patron name b) patron ID number	3.4 a) Yes. b) Yes.
4.0 Printed Output	
4.1 Does the system generate a date due slip?	4.1 No.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	4.2 Yes.
4.3 Recall notices?	4.3 Yes.
4.4 Fines?	4.4 Yes.
4.5 Hold availability?	4.5 Yes.
4.6 Management reports? a) circulation statistics b) weeding lists c) more copies needed d) other - describe	4.6 No. The licensee can create these reports themselves. Some of these can be created with the report writer.
5.0 Software	
5.1 What is the programming language?	5.1 PL/I Optimizer and Assembly.
5.2 Who maintains the software?	5.2 IBM maintains the software. Bugs and suggestions should be sent to Caryl McAlliste at the address above.
5.3 How many programs are in the system?	5.3

IBM
BCUC FEATURE COMPARISON -- CIRCULATION
(CONT'D)

CRITERIA	
5.4 What percent of the programs have been in operation for more than six months?	5.4 100%.
5.5.a. How does the circulation system interface with the mainframe system?	5.5 a) The circulation system is on the mainframe, and is part of the DOBIS/LIBIS package. See File Security & Management 1.2.
b. Is there a tape transfer of data?	b) N/A.
c. Is there or when will there be a computer to computer transfer of data?	c) N/A.
d. What is the protocal for this?	d) N/A.
e. Will other systems (other circ systems) be able to emulate this transfer?	e) N/A.
5.6 What are the future development plans?	5.6 There are none for circulation.
5.7 With other functions be loaded onto this system, such as acquisitions, serials check-in, public access?	5.7 Acquisitions is already part of the DOBIS/LIBIS system.
6.0 Hardware	
6.1 Describe the hardware configuration and the file capacity as you have designed it.	6.1 See attached suggested configuration.
6.2 Terminals - are there different terminals, for specific usage, e.g. check-out terminals, staff use terminals?	6.2 No.
7.0 User Instruction	7.0 The first revision of the LIBIS-Online Librarian's Guide has just come off the press. See User Instructions Ques. 6.0.
7.1 Is there user documentation?	7.1 There are two manuals: 1) Leuven Library System On-Line Librarian's Guide, Program No. 5787-FAJ; 2) Implementation Guide
7.2 How is it organized?	7.2 By function.
7.3 How is it updated?	7.3 There are no plans to update it.

IBM

BCUC FEATURE COMPARISON -- CIRCULATION (CONT'D)

CRITERIA	
7.4 How frequently is it updated?	7.4 Circulation documentation is updated as necessary.
8.0 Costs	
8.1 How is the institution charged for the system?	8.1 See General Management Section.

IBM

BCUC FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT

CRITERIA	
.0 File Organization	
1.1 Describe mainframe resource and user file structure.	1.1 See attached.
1.2 How are individual holdings and union holdings accommodated in the file structure?	1.2 DOBIS-LIBIS has provision for one system catalog and multiple local catalogs. The system catalog (or union catalog) contains records which meet the system standards defined by the installation. Each local library in the network may have a catalog of its own. The extent to which a local catalog is to be developed is entirely up to the local library. The local library may choose to add information to any of the groups of cataloging fields (for example, names, titles, subjects, ISBN, ISSN, publishers, notes, etc.) in the local catalog. This information either replaces the corresponding information in the system catalog or is an addition to whatever is in the system catalog. The choice is left entirely up to the local user and is controlled primarily with an online specification of information to be delivered to the printing programs. Facilities are provided so that for any category of cataloging data the library can specify whether the local data replaces or is an addition to the system data. 'IBM' does not recommend anything concerning system and local catalogs. The catalogs are there so that libraries having local data important enough to justify the added cost of entry can have a place to put that data. No duplication of records is possible because a bibliographic record cannot be added to a local catalog unless there is a record in the system catalog.

BCUC FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT
(CONT'D)

CRITERIA	IBM
1.3 Describe the file relationships between mainframe files and mini-based files.	1.3 The system presently uses only mainframe files. However, CICS now has provision for sharing files among several machines. Thus it would be quite reasonable to put the local files (holdings, orders, circulation) on local machines and the system catalog at a central location. The system has been designed to make this split possible.
2.0 File Maintenance	
2.1 How frequently are the source files updated?	2.1 The files are updated in real time.
2.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing, or instantly?	2.2 The indexes are also updated in real time.
3.0 File Security	3.0 If a transaction is not completed, the journal file does not have a record on it showing that this transaction has been completed. The journal file is checked each time the system is started for incomplete transactions. If any are found, the update is completed automatically by the system before any user may log on to the system. If one or more of the system files is destroyed physically, the most recent version of the files can be reconstructed from the surviving parts of the files and the journal records. Data can, of course, be lost through program bugs, but it is essentially impossible to lose data through hardware, data transmission, or similar errors.

IBM

BUCU FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT (CONT'D)

CRITERIA	
3.1 How would you know if you lost data?	3.1 This would depend on how licensee ran their dp shop.
3.2 When was the last time you lost data that was unrecoverable?	3.2 N/A.
3.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.	3.3 The user logs on with his name and a password. Both must match the information in the system user file. The password is stored in the files in encoded form so that not even a programmer having access to the files directly can discover the password. The password can be changed by the user at any time. Searching in the catalog can be performed without any authorization. However, any update of any file or display of circulation or acquisition files is only possible with the appropriate authorization. Authorization is controlled by user of a 'Maintenance' function. Only users with a very high authorization may change authorization levels of other users. No-one may change authorization levels of other users. No one may change his own authorization level.
4.0 Response Time	4.0 N/A.
4.1 What is the average response time for the last six months?	
4.2 How does the file architecture take response time into consideration?	

BCUC FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT (CONT'D)

CRITERIA	IBM
4.3 How long (in computer cpu execute time) does it take to pull an individual file of 30,000 bib records? A union file of four institutions of 60,000 records?	
5.0 File Security	5.0 N/A.
5.1 What has been the up-time percentage for the first six months of 79?	
5.2 How has that differed from 1978?	
5.3 What are main components of the down-time (i.e. causes)?	
5.4 What are the most common reasons for down-time now?	
5.5 For first six months of 1979?	

IBM

BCUC FEATURE COMPARISON -- GENERAL MANAGEMENT AND ORGANIZATION

CRITERIA	
1.0 Organization	
1.1 Provide an organization chart.	1.1 IBM marketing is not running the system.
1.2 How many people are involved in each of the major units?	
1.3 How many staff are directly involved in running the system?	
2.0 Development Funding	
2.1 How will development of new subsystems and features be financed?	2.1 Licensees may contract IBM to make enhancements or they may make them on their own with whatever financing arrangements they choose.
3.0 User Participation	
3.1 How do the users indicate their preferences for system development?	3.1 There is no IBM sponsored User's Group. This would be up to each licensee to define. Responsibility for maintenance rests with Caryl and Stratton McAllister. They accept bug reports and suggestions for improvements. A number of changes to the system have already been made at the suggestion of users.
4.0 Growth	
4.1 What is the potential growth over the next three years?	4.1 Any library that can afford a 4300 Series computer.
4.2 Where will this growth come from?	
4.3 Will new features and systems be required to obtain this growth?	

IBM

BCUC FEATURE COMPARISON -- PUBLIC ACCESS

CRITERIA	
1.0 General Information	
1.1 Is there a public access system?	1.1 Because DOBIS-LIBIS is integrated, none of the modules are 'separate'. There is a public access module, however. When searching is done by someone without authorization for authority file changes, it becomes a pure searching module. In this case, no additions can be made to the file, and although holdings of all libraries in the system can be searched, no acquisitions or circulation information may be displayed.
1.2 How long has it been in use?	1.2 A terminal has been available in Leuven since 1979.
1.3 How many users are on the system?	1.3 None.
2.0 Search	
2.1 What files are available for searching?	2.1 All bibliographic and holdings files may be searched (names, titles, subjects, classification, publisher, ISBN, ISSN, call number, etc.).
2.2 How can the files be searched?	2.2 All searching is done with the help of menus. The searcher must know how to read and follow instructions.
3.0 System Messages	
3.1 Does the system prompt the user	3.1 Yes.
3.2 Is there menu selection for functions?	3.2 Yes.
3.3 Are the system explanations expandable, i.e. novice and expert?	3.3 Yes, command chaining enables the more experienced user to move quickly through the screens.

IBM

BCUC FEATURE COMPARISON -- RECON METHODS

CRITERIA	
1.0 What are the recon input methods? a) batch b) on-line	1.0 b) only
2.0 What are the recon access keys? a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system id no.	2.0 Machine-readable records can be added to DOBIS-LIBIS by converting them to DMARC format. The system will then load the records in the online files. These records can be searched exactly as all other records in the system. Same as for searching system files.
3.0 What is the turn-around with the batch input?	3.0 Not applicable.
4.0 What are the differences in service, products, and costs with the on-line recon service as compared to the regular on-line cataloging service?	4.0 There are none in the system. This is a policy questio decided by each licensee.
5.0 How many users are using the recon facility for recon purposes?	5.0 None.
6.0 Is the entire data base and system facilities available for recon? If not, what is available?	6.0 Yes.

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IBM

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION

CRITERIA	
1.0 What information is given to the institution who chooses to replicate the software?	1.1 - 1.5 Yes.
1.1 System documentation	
1.2 Program documentation (including macros, tables, subroutines, utilities)	
1.3 Is the replicated institution given source or object code?	
1.4 Run instructions	
1.5 run jcl	
1.6 Control forms	1.6 No.
2.0 What is the training program for replication?	2.0 Internals workshops and installation guidance available at the user's expense from Caryl and Stratton McAllister. Local assistance from IBM in Canada.
2.1 Operations staff	
2.2 Programming staff	
2.3 Control staff	
2.4 'Network' staff	
2.5 What recourse does the replicated user have to resolve problems during the first year of operations?	2.5 Call or send questions to IBM.
3.0 What is the procedure for bringing up the software in the replicated facility?	3.0 Outlined in the installation guides.
4.0 What is the acceptance test criteria?	4.0 There is none.
5.0 What happens to any guarantees or warranties, if the software is modified?	5.0 The licensee has 30 days free of charge in which to accept the system.

IBM

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION (CONT'D)

CRITERIA	
6.0 Does the replicated institution receive software updates, as well as documentation updates?	6.0 Yes.
7.0 Staff 7.1 How many staff are needed to run a replicated system? 7.2 What would each staff member's responsibility be?	7.0 For a stand-alone installation, planning limited enhancements and very minor modifications - 1 systems programmer familiar with CICS. 2 applications programmers with some knowledge of PL1 and assembler, depending on the number of local written programs needed 3 computer operators, depending on the number of shifts 1 systems librarian plus administrative and management personn

BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	IBM
1.0 Files	
1.1 Resource files can be searched by:	1.1 The resource file in the DOBIS system is the system level bib files from all sources. They can be searched by:
a) LC no.	a) Yes.
b) ISBN no.	b) Yes.
c) ISSN no.	c) Yes.
d) System no.	d) Yes.
e) Author key	e) Yes.
f) Author words	f) Yes.
g) Title key	g) Permuted title not a keyword.
h) Title words	h) Yes.
i) Subject	i) Yes.
1.2 Authority file a) System no. b) Words c) Key	1.2 In DOBIS-LIBIS, almost all bibliographic access-point files are authority files in the sense that: • The file is consulted during cataloging before a decision is made about the new entry. • A change in the authority file causes all bibliographic records associated with that entry to be changed automatically. • Authority file entries exist independently of document files. • Information about the entry is kept in the authority file (for example, cross-referen subject type, name type, etc.).
1.3 Library bib files a) LC no. b) ISBN no. c) ISSN no. d) System no.	1.3 Local bibliographic data in the system files is searched by the same access pointers as those listed in 1.1. Local bib files can have access by whatever the local library chooses.

BCUC FEATURE COMPARISON -- SEARCH
(CONT'D)

CRITERIA	IBM
1.3 Library bib files (CONT'D) e) Author key f) Author words g) Title key h) Title words i) Subject	
2.0 SEARCH Types	
2.1 Is there a search only capability?	2.1 Yes.
2.2 Is it possible to browse through files? Which ones.	2.2 Yes - all access point files.
2.3 Can one browse through the authority files, and then display bib records?	2.3 Yes.
2.4 a. Does the system handle Boolean Searches? b. What are the limits to the use of the Boolean capability - size & procedures?	2.4 No.
2.5 Is there a novice and expert method of searching?	2.5 An experienced user can use command chaining to speed their way through several screens at a time.
2.6 a. Is the search logic designed for the public or for library employees? b. Is anyone presently using the system for direct patron inquiry?	2.6 a. The system is designed for anyone who car read and follow instruction. b. Leuven.

BCUC FEATURE COMPARISON -- SEARCH (CONT'D)

CRITERIA	IBM
2.7 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	2.7 Yes, one can view further matches without repeating the search.
2.8 Can the search be refined so that further searches are made on the hits?	2.8 No.
2.9 Can a heirarchy of source databases and other library databases be established for matching?	2.9 Only if one has both system and local bib files, then the user can search the system file and then the local user file or the local user file and then the system file.
3.0 Display	
3.1 If the system retreives more than one match, what information is displayed?	3.1 The information displayed on the short bibliographic summary screen is: First name first title, and date 1 from the MARC record The full bibliographic information is available as the next step.
3.2 If one record matches the key, does the system display the full record immediately?	3.2 The user knows from the display of the authority file how many documents are indexed by a particular entry. If there is only one, and the full bibliographic information is to be displayed immediately, the system can be told to do this. This is applicab to all access-point files through out the system.
3.3 When a hit is displayed, are the holdings codes of other institutions also displayed?	3.3 They can be by displaying the next screen.
3.4 Can the searcher request to view another users record at this point?	3.4 All records in the system level files are accessable to users.
3.5 What is the maximum number of hits by search types? What happens when a user hits this number?	3.5 There is none.

IBM

BCUC FEATURE COMPARISON -- SERIALS

CRITERIA	
1.0 General Information	
1.1 Is the serials subsystem working?	1.1 No.
1.2 How long has it been operational?	1.2 N/A.
1.3 How many users are there? Who are they?	1.3 None.
1.4 Are the conser records available as a resource file? How many?	1.4 Assuming CONSER records are in LC MARC serials format, they can be loaded.
2.0 What functions does the subsystem perform?	
2.1 serials check-in	2.1 No.
2.2 serials claim	2.2 No.
2.3 subscription monitoring (ordering, renewal, cancellation)	2.3 Subscription monitoring is done in the acquisition module, in LIBIS.
2.4 bindery control	2.4 No.
2.5 Can holdings be used in a summary fashion as well as detailed holdings?	2.5 This is a policy option. Summary holdings may be stored in the summary holdings file, and detailed holdings may be stored in the local copy file.
3.0 Linkage to other subsystems	
3.1 What is the linkage between serials and acquisition?	3.1 Serials may be purchased through the acquisition system.
3.2 What is the linkage to the circulation and public access?	3.2 Serials may be circulated if there is local copy information.

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IBM
BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	
1.0 Is the documentation indexed?	1.0 No - there is a detailed table of contents and a list of figures in each manual.
2.0 Are there samples of the procedures within the text?	2.0 Some.
3.0 Does the documentation follow the different operations from beginning to end?	3.0 No, each operation is described separately and fully. The intent in designing the syst was to make it such that users did not need to refer to instructions or manuals to use the system.
4.0 Preparation	
4.1 What is the procedure for creating and releasing new or updated documentation? Who is responsible for writing? Who reviews the draft?	4.1 If the updates are short, separate updated pages are issued.
4.2 What is policy on features? the documentation accompanies the announcement of a new feature? are there guinea pig users who check out a new feature prior to general announcment of the features release?	4.2 Not applicable. The software is not an IBM program product. So while IBM corrects bugs, there is not a formal plan for enhancements or updates.
5.0 What portions of the system are not included in the user documentation?	5.0 There are some manuals on everything - to install and implement the software, and to give a general description of the software package.
6.0 Updates 6.1 How often is the user documenation updated? 6.2 What is the date of the last update?	6.0 The documentation is not subject to continuo revision and update. All documentation is updated irregularily as errors are found. The frequency and format of the updates depends upon the errors involved. Updates are either issued as separate pages if they are minor, or a new version of the manual is issued if several pages are involved. The revised version of the manuals have the same number as the first with the addition of a hyphen and a number to indicate the number (the revision.

IBM

BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	
6.0 Updates (CONT'D)	6.0 Changes and suggestions should be sent to Caryl McAllister or given to the local IBM representative to be forwarded to her.
7.0 Is the documentation clear and easy to use? Understandable?	7.0 Yes.

APPENDIX F

FEATURES COMPARISON

WLN INFORMATION

BCUC FEATURE COMPARISON -- ACQUISITIONS

CRITERIA	WLN
1.0 General Information	
1.1 How long has the acquisition system been operational?	1.1 June 1978.
1.2 How many libraries are using the system currently?	1.2 As of August 1979, eight libraries are in full production, two libraries have recently been trained.
1.3 How long has each used the system?	1.3 WSU - 14 months, Whitworth - 14 months, WSL - 14 months, Timberland Regional - 8 months, Pacific Lutheran - 3 months, Ganzaga - 3 months, Spokane Falls Community College - 1 month, Boise State University - 1 month, University of Alaska - training complete, University of Puget Sound - Law School - training complete.
1.4 Types of materials handled? a) monographs b) microfilms c) films d) phonorecords e) maps f) kits g) subscriptions h) standing orders, and approvals i) gifts and exchanges j) added copies	1.4 There are no limitations on the kinds of materials handled. A record type field defines the type of material. In ordering non-bibliographic items, the order record need not be linked to the bibliographic file.
1.5 Is the LC MARC file and/or other resource files used for order input and verification?	1.5 The WLN bibliographic file is used for order input and verification.
2.0 Files	
2.1 Describe the files and their interrelationship.	2.1 In-process and standing order file are linked to the bibliographic file. Vendor information carried in a file of library names and addresses. (Present access by ID number only.) Account status is posted nightly.

CRITERIA	WLN
2.2 What information is in the in-process record? a) author b) title c) publisher d) supplier e) order date f) price g) prepayment indication h) type of material i) rush indicator j) po number k) fund	2.2 In-process record has all data items listed. There is basic bibliographic data plus information necessary to order, claim, and receive the item. The encumberance field is separate from the list price field, each is entered independently.
2.3 How are the in-process files accessed?	2.3 Same access as the bibliographic system. Direct access to the in-process file is by po number only.
2.4 What information does the vendor file have?	2.4 Vendor name and address. Separate order and pay addresses may be maintained.
2.5 Who keeps the vendor file current?	2.5 WSL Acquisitions Department. There are 9,000 vendors in the file now. Also, a vendor name and address can be input with an individual order.
3.0 System Features	
3.1 Does the user in-process file have cancellations? For how long? With reasons for cancellations?	3.1 Records stay on-line until the user tells the system to write the records to a history file. Even then the system waits 45 days after the "clear" command (i.e., write to history), and then will copy off record only if there has been no update activity on the record in the 45 days.
3.2 a) How are foreign currency conversion rates updated?	3.2 a) A design for foreign currency conversions exists, but it is not presently implemented.
b) How frequently?	b)

CRITERIA	WLN
3.3 Does the system handle prepayments?	3.3 Yes. A record may be marked to indicate cate prepayment, but no output is generated.
3.4 Claims	
a) Does the system claim on a given schedule?	3.4 a) User can set claim interval in profile, and can overrride with individual orders.
b) What is it?	b) User defined.
c) Can it be adjusted?	c) Yes.
d) Are claims reviewed before mailing?	d) Yes, they are mailed to the user for review, if desired.
3.5 Fund Accounting	
a) Does the system provide for fund accounting?	3.5 a) Yes, there is both an account number for application of funds and an account code for fund source.
b) How many subfunds or levels of funds are provided?	b) There is no hierarchy of funds and subfunds. In the future funds will be able to be grouped
c) What information does the funding accounting record contain?	c) Account number, account code, description of the account, allocation amount, outstanding encumbrances, disbursements, free balance.
d) Does the system encumber?	d) Yes, but only when information put in specific field. Records can be created without encumbering funds.
e) Can totals be carried over from year to year?	e) Yes.
f) Can the user overencumber by a designated amount?	f) The funds can be overencumbered by any amount. A report is generated when overencumbering first occurs.
g) What kind of fund reports are available? What is the frequency?	g) Daily - detail report of every accounting action and summary report of accounting transactions. Weekly - summary of fund account status. Monthly detailed encumbrance report.

CRITERIA	WLN
3.6 Receiving	
a) How are partial shipments handled?	3.6 a) Payments are initiated for only those items received; other orders remain open.
b) How are returns and requests for credits handled?	b) Create an accounting segment with a credit status.
c) Are damaged books or wrong books automatically reordered?	c) No.
3.7 Purchase Orders	
a) Are purchase orders generated on a regular schedule or on demand?	3.7 a) Presently generated twice a week. In the future when the volume builds, they will be generated nightly.
b) Are orders from different libraries to the same supplier combined?	b) No.
c) What special order features are available?	c) Special messages can be placed on the order, e.g., order on approval, quote only, information request, membership account. Also, flags exist to generate messages - rush, intentional duplicate, no cataloging. For the future it is planned that cataloging products can be ordered automatically at the time of receipt of the material. For approval materials, receipts can be generated without order generation.
3.8 Are tapes from or to the supplier read into the system or generated by the system?	3.8 Not at present.
4.0 What kind of management reports are generated?	
4.1 Vendor performance	4.1 No report at present.
4.2 Average price for classes of books/materials	4.2 No report at present.
4.3 Fund status	4.3 Yes - on fiche or paper.

CRITERIA	WLN
4.4 In-process status	4.4 On-line inquiry provides this information on demand or a report can be produced.
4.5 Outstanding orders	4.5 No report at present.
5.0 Printed Products	
5.1 Purchase orders	5.1 Yes.
5.2 Claims	5.2 Yes.
5.3 Cancellations	5.3 No notification generated to the supplier.
5.4 Notification of receipt of items ordered by specific persons	5.4 Yes, by putting a note in the record for manual follow-up.
5.5 Routing slips	5.5 Yes, by putting a note in the record for manual follow-up.
5.6 Vendor reports on item status	5.6 Yes, by putting a note in the record for manual follow-up.
6.0 Linkage to other subsystems	
6.1 What is the link to the cataloging subsystem?	6.1 The bibliographic file and access methods are central to both the cataloging and acquisition subsystems.
6.2 What is the link to the authority control subsystem?	6.2 The link is not direct, but as part of the link with the cataloging system.
6.3 What is the link to the serials control subsystem?	6.3 Some serials functions are performed by the acquisitions subsystem. There is no separate serials subsystem.
6.4 What is the link to the public access subsystem?	6.4 There is no separate public access system. The same inquiry/search methods are used for acquisition and cataloging.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	WLN
.0 General Information	
1.1 Is there an automated authority control system in operation?	1.1 Yes.
1.2 How long has it been in use?	1.2 Batch programs available and operating in 1971. Present on-line programs implemented in 1977.
1.3 How many authority records are there now (as of August 1979) list source and number per source	
a) total authorities	1.3 a) 1, 853, 262
b) total names	b) Not known (X-refs not sep. records)
c) total subjects	c) Not known (X-refs not sep. records)
d) total cross reference	d) Not known (X-refs not sep. records)
e) local headings	e) Not known (X-refs not sep. records)
1.4 Are the LC MARC authorities an input to the system?	
a) names	1.4 a) Not presently.
b) subjects	b) Not presently.
1.5 What are the other sources of input? E.g., NLC	1.5 Headings are automatically pulled out of new bibliographic records. However, headings are stripped from LC MARC records, so there are LC children's headings, NAL headings, NLM headings, and NLC English and French headings. LC subject X-refs are being added manually, as well as changes.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL

CRITERIA	WLN
2.0 File Organization	
2.1 Diagram of file layout attachments ____	2.1
2.2 What files are linked?	2.2 The bibliographic and authority files are linked.
2.3 Is the heading or an access number stored in the bib record?	2.3 The Authority Access Number is stored in the bibliographic record. Bibl. Access No. is stored in author record also.
2.4 What does the authority record look like, i.e., data elements?	2.4 See Inquiry Manual.
2.5 Does the heading record have and display the source of the heading, e.g., LC, or local library symbol?	2.5 If the heading is other than LC adult headings, then the authority for the heading is displayed as a code on the display screen. The codes are: C = LC Children's headings, M = MESH headings, A = NAL, F = NLC - French, E = NLC - English.
2.6 Does the heading indicate the rules by which it was created? E.g., AACR1, AACR2, LC interpetation.	2.6 Not at present.
2.7 Is this information used to suppress AACR2 headings until 1981?	2.7 Not at present.
3.0 Validation of Bibliographic Input	
3.1 Are headings updated automatically on input?	3.1 No, new headings are added immediately. A printed report is made of the headings that do not match.
3.2 Is there a hierarchy of matching against authorities?	3.2 No - there is only one authority file.
3.3 Can it be set for each individual user?	3.3 No.
3.4 For groups of users?	3.4 No.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	WLN
3.5 How are the LC authority tapes loaded and the file updated?	3.5 They are not loaded.
3.6 Is batch update of bibliographic records from user as well as LC possible?	3.6 Yes - but the headings must be manually verified by the Bibliographic Maintenance Staff of WSL/WLN if there are new headings to the file.
4.0 Update of Authority Records	
4.1 When an authority record is changed, are all the linked records changed automatically? How is the owner of the bib linked record notified?	4.1 Yes - user notified unless main entry.
4.2 Can an update replace any matching heading or is the replacement limited to matching records of the same source? E.g., LC update to LC heading, or LC update to any matching heading.	4.2 An update cannot automatically replace an existing heading. All duplications, conflicts, or new headings must be reviewed by the Bibliographic Maintenance Staff of WSL/WLN for revision.
4.3 How are local headings handled when in conflict with one another and/or LC?	4.3 Local headings in conflict are not allowed.
5.0 Other Services and Products	
5.1 Are there cross references and notes (scope)?	5.1 Yes - these are added manually on a systematic basis. WLN users cannot modify headings or notes.
5.2 Are there bilingual headings?	5.2 French Canadian records are on the file, but not linked to corresponding English records.
5.3 Are the authority records and cross references used in production of batch products?	
a) Catalog cards	5.3.a) Yes -for regular cards, but not cross reference cards.

BCUC FEATURE COMPARISON -- AUTHORITY CONTROL
(CONT'D)

CRITERIA	WLN
5.3 b) Book catalogs (in print or microfilm).	5.3 b) Yes.
5.4 Can a user request a tape of bib and authority records in LC MARC communications format?	5.4 No - the authority records cannot be output as a separate Authority file, or even as separate Authority records.
5.5 Other authority batch or off-line products?	5.5 Internal error listing, the SOB, for use in maintaining the file.
6.0 Linkages to Other Subsystems	
6.1 Is the authority file linked to the circulation files?	6.1 No.
6.2 Is the authority file linked to the acquisition files?	6.2 Yes - for full bibliographic records, but not for interim bibliographic records.

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS

CRITERIA	WLN
1. Catalog Cards	
1.1 Are cards available for all MARC formats? If not, which formats are ommitted?	1.1 Cards are produced from monograph film and serials records. Cards are not available for maps, music, and manuscripts.
1.2 How frequently are they produced?	1.2 Weekly.
1.3 Describe categories where options in format are available. Card profile is attached as Appendix _.	1.3 Options include: call number selection and format, product quantity, and type of subject headings.
1.4 Can cards be pre-sorted?	1.4 No. Complete sets only.
1.5 Are cross reference cards available?	1.5 No.
2.0 Labels	
2.1 Are book labels produced?	2.1 Yes.
2.2 Spine labels?	2.2 Yes.
3.0 Edit Lists	
3.1 How are records selected for edit lists?	3.1 User can use printer attached to CRT terminal to print the display. Or, for batch processing of groups of records, edit lists are produced.
3.2 What information is available?	3.2 Full record.
3.3 How frequently are they produced?	3.3 On demand, that is, whenever the batch input programs are run, and they are scheduled at the user's request.
3.4 Are edit lists accompanied by error listings? When?	3.4 Not as of this date.

CRITERIA	WLN
4.0 COM	
4.1 Are both microfiche and microfilm available?	4.1 Microfiche has been produced since 1975. Microfilm generation currently being tested for production.
4.2 What reduction ratio?	4.2 42X
4.3 Do you produce or subcontract the fiche or film generation?	4.3 Subcontract to a commercial vendor in Spokane, Washington.
4.4 Are all MARC formats available in microfilm?	4.4 Monograph, serial and film records can be used in COM catalogs.
4.5 Are both full and abbreviated entries possible in:	
a) the same catalog?	4.5 a) Not in the same catalog segment (author, title, subject) but yes in separate segments.
b) different catalogs?	b) Yes.
4.6 Sequences available?	
a) author (including added entries) separate	4.6 a) Yes.
b) title separate	b) Yes.
c) subject separate	c) Yes.
d) shelf list (LC and Dewey)	d) No.
e) author and title combined	e) Yes.
f) author, title and subject combined	f) Yes.
g) classed catalog	g) No.
h) register - index	h) Yes.
4.7 Are union catalogs available? Cite examples of existing union catalogs.	4.7 Yes, the Resource Directory of WLN participants. A subset of all users have not yet been used to generate a union catalog.

BCUC FEATURE COMPARISON -- BATCH SERVICES & PRODUCTS (CONT'D)

CRITERIA	WLN
4.8 Frequency of generation:	
a) master only	4.8 a) Negotiable.
b) master plus supplements - weekly, monthly, bimonthly, semiannual, quarterly	b) Negotiable.
4.9 a) Are there cross references in the catalogs?	4.9 a) Yes.
b) Is there a check for blind references?	b) Yes.
5.0 Magnetic Tapes	
5.1 Are these available in the LC MARC communications format?	5.1 Yes, the COMARC tapes from WSL were generated by WLN.
5.2 Other formats for tape delivery?	5.2 None presently available.
5.3 Frequency of tape generation. One time, on demand, weekly, monthly, quarterly, annual.	5.3 On demand.
6.0 Paper Catalogs	
6.1 Are the same kinds of catalogs available on paper as microfilm? Explain differences.	6.1 Yes, the same kinds are available. The only difference is the output medium.
6.2 Are photocoposition catalogs available?	6.2 Yes, but note these programs are not now part of the WLN software packages. The older programs for the resource directory produced a photo-composed catalog.
6.3 Are computer lineprint lists available?	6.3 Yes.
7.0 Miscellaneous	
7.1 Are microforms of the resource data base or portions available?	7.1 Yes.

CRITERIA	WLN
.0 General Knowledge	
1.1 Is the resource file LC MARC compatible?	1.1 Yes.
1.2 What data fields have been dropped from the LC MARC format?	1.2 None
1.3 What data fields have been added to the LC MARC format?	1.3 Local holdings and institution dependent notes and headings. WLN adds control information.
1.4 What data fields have been changed in the LC MARC format?	1.4 No particular data field is changed, unless an error is detected by a system user in which case WLN staff may change the record after careful review.
1.5 What fields are available for local (i.e., user) data?	1.5 a) Summary holdings data: local call number, physical description, volume or copy holdings. b) Detailed holdings will be copy level information, but not piece control as in circulation. c) Institution-dependent headings and notes.
1.6 Can an LC MARC communication file be created as output?	1.6 Yes. WLN supplied LC with COMARC records through the reconstruction of records in the MARC II communications format.
.0 Describe the record structure.	2.0 It retains all information contained in the MARC II communications format, but distributes it in a data base structure defined with ADABAS.

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT (CONT'D)

CRITERIA	WLN
3.0 What are the enforceable standards for quality of data input?	3.0 The standard is LC, except where different from WLN. RECON only . The standard is enforceable, because no record except those from LC MARC Distribution Service is added to the bibliographic data base until WLN/WSL staff review and release the record. WLN has a draft standards document.
4.0 How is a new record released for general use?	4.0 a) Interim records are immediately available without review. b) Full bibliographic records are released after review by WLN/WSL Bibliographic Maintenance Staff and a after a final check (by the system) for duplicates.
5.0 What other means can be used to release records?	5.0 LC MARC records are added to the bibliographic data base without review. A program or table change could be made to immediately add user records to the bibliographic data base. Otherwise, all records from users must be reviewed as is now the case.
6.0 What verification is needed for a new record-the manual and system components?	6.0 Manual - Review appropriateness of tagging and correct forms of entry. See Appendix __ for specific instructions. System - There are two general kinds of verification or checking done by the system. First, the record is automatically routed through a prescribed sign-off, a manual release from one stage results in routing the record to the next stage until all manual sign-offs have been completed. Second, before the record has completed the

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT
(CONT'D)

CRITERIA	WLN
6.0 What verification is needed for a new record-the manual and system components?	6.0 (Cont'd) final sign-off, the system does a check for duplication, 1) on the LC card number; 2) title keyword plus author; 3) title keyword and next addded entry; 4) authority check.
7.0 Duplicate Records	
7.1 How are duplicate records identified?	7.1 System detects duplicates when the LC MARC subscription tapes are added and when a record is released to the bibliographic file. Users can notify WLN staff of other possible duplicates.
7.2 If an LC record is updated, are all user holdings updated?	7.2 Yes. Holdings records "point" to bibliographic file records, so an update to bibliographic automatically results in update to user files.
7.3 If LC releases a record that matches a non-LC record, what happens?	7.3 System or automatic search on LC number (RID), then title key word and author name and added entries. If a possible duplicate is detected, then duplicate records put in a file for manual review by WLN/WSL Bibliographic Maintenance Staff.
7.4 If other resource subscription records, a) match an existing LC record, what happens?	7.4 There are no other subscriptions as of now, but if there were, these could be handled in the same manner either as the LC MARC records or as the library supplied records.
b) match a user record, what happens?	

BCUC FEATURE COMPARISON -- BIBLIOGRAPHIC RECORD MANAGEMENT (CONT'D)

CRITERIA	WLN
7.5 In a union catalog, how are duplicates identified and resolved?	7.5 This is not a problem, because all holdings records "point" to bibliographic file records. Duplicates are minimal in the bibliographic file and are not merged when processing for a union catalog. In the future, if a second collection data base was established, duplication between the first and second data base would need to be identified and resolved.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN
1.0 General Information	
1.1 What is the system name?	1.1 Dataphone Automated Library Information (ALICE)
1.2 a) How many systems are installed?	1.2 a) 10 systems. Fairfax Cty., Broward Cty., Dallas, Tacoma, SF Austin, Oral Roberts, Wichta, Greensboro, Charlotte, Atlanta, Houston, Chula Vista, INTEVEP, National Petroleum Institute of Venezula.
1.2 b) How long has oldest been in use?	1.2 b)
c) Newest?	c)
1.3 Are all MARC formats handled by the circ system?	
a) monographs	1.3 a) Yes.
b) serials	b) Yes.
c) phono records	c) Yes.
d) films	d) Yes.
e) tapes	e) Yes.
f) maps	f) Yes.
g) microfilms	g) Yes.
1.4 Does the system have the following functions in operation now:	
a) charge	1.4 a) Yes.
b) discharge	b) Yes.
c) renew	c) Yes.
d) holds (name in queue for book)	d) Yes.
e) reserves	e) Yes.
f) film and audiovisual bookings	f) Yes - but under revision.
g) interlibrary loan	g) Yes.
h) branch	h) Yes.
i) fine calculation & payment of fines	i) Yes.
j) recall	j) Yes.
k) carrels	k) Yes.
l) in-process monitoring	l) Yes.
m) record - count of all reshelving, i.e. also in library use of material.	m) Yes.

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN	
1.5 What are the loan periods available and in use?	1.5 Based on parameter table comparing patron status and type of material.	
1.6 What are the types of borrowers?	1.6 No limit.	
1.7 How is the book charged if either the book has no circ identification or the borrower does not have his card?	1.7 Key in label no. or charge by title. Key in patron no. or patron name.	
1.8 Public Access	SF Austin using it for patron search - inquiry	
a) Can the patron search the book files?	1.8 a) Yes.	
b) Where is this being done now?	b) Planned for Stephen F. Austin	
c) How long has it been in use?	c)	
2.0 Book Information		
2.1 What is the book identification? bar code, book card, etc?	2.1 Bar code label or OCR label	
2.2 What is the book or title record format?	Varies with library.	
a) fixed or variable	2.2 a) Variable(?)	
b) max characters (average characters)	b)	
c) MARC format	c) Yes - full.	
d) derived from MARC format	d) Can be.	
e) data compression - what?	e) ?	
2.3 What information is in the book/title record?	2.3 MARC data plus CCR nos., internal pointers.	
2.4 What are the access points to the book/title file?	2.	
a) author	2.4 a) Yes.	
b) title	b) Yes.	
c) ISBN	c) Yes.	ISSN
d) book number	d) Yes.	Vendor no.
e) search key, describe	e) No.	
f) subjects	f) Yes.	
g) call number	g) Yes.	

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN
3.0 Borrower Information	
3.1 What is the borrower card identification? bar code label on student id card, etc.	3.1 Always bar code or OCR.
3.2 What is the patron or borrower record format? a) fixed or variable b) max &/or average characters	3.2 a) b)
3.3 What information is in the borrower file?	3.3 Patron name and address, four statistical fields (patron class, academic major, etc.) two address fields, lists of book charges, on hold, lost, blocks, books on reserve.
3.4 How is the borrower file accessed? a) patron name b) patron ID number	3.4 a) Yes. b) Yes.
4.0 Printed Output	
4.1 Does the system generate a date due slip.	4.1 No - there are printers - slave that print charging screen.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	4.2 Yes - 1, 2, 3 - bill
4.3 Recall notices?	4.3 Yes.
4.4 Fines?	4.4 Planned - data mailer will include all fines and outstanding charges by January 1980.
4.5 Hold availability?	4.5 Yes.
4.6 Management reports? a) circulation statistics	4.6 a) By branch, by collection, by LC call no., by class of patron, by zip code.
b) weeding lists	b) Dusty book report.
c) more copies needed	c) Purchase alert. parameter based.
d) other - describe	d) ?

BCUC FEATURE COMPARISON -- CIRCULATION

CRITERIA	WLN
5.0 Software	
5.1 What is the programming language?	5.1 MIS (dialect of MUMPS)
5.2 Who maintains the software?	5.2 DataPhase (on-line interface with remote systems for maintenance).
5.3 How many programs are in the system?	5.3 Over 900.
5.4 What percent of the program have been in operation for more than six months?	5.4 95%
5.5 a) How does the circulation system interface with the mainframe system?	5.5 a) Tape transfer, or can develop an rje interface.
b) Is there a tape transfer of data?	b) Yes.
c) Is there or when will there be a computer to computer transfer of data?	c) Eventually
d) What is the protocal for this?	d)
e) Will other systems (other circ systems) be able to emulate this transfer?	e)
5.6 What are the future development plans?	5.6 Acquistions and material books are under development.
5.7 Will other functions be loaded onto this system, such as acquisitions, serials check-in, public access?	5.7 Acquisitions and material bookings.
6.0 Hardware	
6.1 Describe the hardware configuration and the file capacity as you have designed it.	6.1 DG family of Nova and Ecipises - any cpu's in this line.

CRITERIA	WLN
6.2 Terminals - are there different terminals, for specific usage, e.g. check-out terminals, staff use terminals?	6.2 Same terminals - except circ terminals have an OCR wand attached - reference and inquiry terminals do not.
7.0 User Instruction	
7.1 Is there user documentation?	7.1 Yes.
7.2 How is it organized?	7.2 User's Manual with step-by-step instructions plus prompts plus comprehensive system manual.
7.3 How is it updated?	7.3 Monthly updates to the user's manual.
7.4 How frequently is it updated?	7.4

BCUC FEATURE COMPARISON -- FILE SECURITY & MANAGEMENT

CRITERIA	WLN
1.0 File Organization	
1.1 Describe mainframe resource and user file structure.	1.1 and 1.2 attached.
1.2 How are individual holdings and union holdings accommodated in file structure?	1.2 Bibliographic records are not duplicated. All holdings reference a bibliographic record.
1.3 Describe the file relationships between mainframe files and mini-based files.	1.3 Expect to extract MARC II records from the mainframe and use them to load bibliographic data in the mini-computer files.
2.0 File Maintenance	
2.1 How frequently are the source files updated?	2.1 Nightly - for local changes. Every two weeks for LC MARC tapes.
2.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing or instantly?	2.2 Interim working, in-process, and standing order records are created and updated immediately. All other files are updated over night. These include the bibliographic, authority and waiting files.
3.0 File Security	
3.1 How would you know if you lost data?	3.1 If data lost because of hardware or software failure during file back-up and restore, it would be immediately apparent. Batch programs utilize count control. If lost otherwise, user would probably know first.

CRITERIA	WLN
3.2 When was the last time you lost data that was unrecoverable?	3.2 February 1979 - disk failure compounded with ADABAS failure caused data loss.
3.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.	3.3 Multi-level review and release of data. Only the WLN/WSL Bibliographic Maintenance Staff can release records into the bibliographic data base.
4.0 Response Time	
4.1 What is the average response time for the last six months?	4.1 2-1/2 seconds on mainframe only. This does not include front end or data transmission from the terminal.
4.2 How does the file architecture take response time into consideration?	4.2 The "key" file was devised to include all keys and route successful hits.
4.3 How long (in computer cpu execute time) does it take to pull an individual file of 30,000 bib records? A union file of four institutions of 60,000 records?	4.3 There is a tape file of the Bibliographic file plus user holdings. This file would be used to select out individual user holdings. Additions and changes are added onto the end of this tape file weekly.
5.0 File Reliability	
5.1 What has been the up-time percentage for the first six months of 1979?	5.1 No statistics available.
5.2 How has that differed from 1978?	5.2 Amdahl equipment has resulted in a more reliable system, but exact data not available.
5.3 What are main components of the downtime (i.e. causes)?	5.3 Hardware, CICS Region failures, ADABASE failures.
5.4 For first six months of 1979?	5.4 No exact data available.

BCUC FEATURE COMPARISON -- GENERAL MANAGEMENT AND ORGANIZATION

CRITERIA	WLN
1.0 Organization	
1.1 Provide an organization chart.	1.1 See attached. In addition to the WLN staff, support is provided by the WSU computer center and the WSL staff.
1.2 How many people are involved in each of the major units?	1.2 See attached.
1.3 How many staff are directly involved in running the system?	1.3 Approximately 12. See attached.
2.0 Development Funding	
2.1 How will development of new subsystems and features be financed?	2.1 External grants. No more than 25% of current WLN staff allocated to development.
3.0 User Participation	
3.1 How do the users indicate their preferences for system development?	3.1 a) Formal meetings (e.g., at PNLA in Boise). There are 53 participants at present. b) Committees are used to develop specifications. c) Informal contacts, in person, telephone and letter. d) Some survey of users on features.
4.0 Growth	
4.1 What is the potential growth over the next three years?	4.1 Direct to 250 terminals (130 at present). Indirect via circulation systems over 400 is possible (link not yet available).
4.2 Where will this growth come from?	4.2 Both new participants and expanded use by present partipants (e.g. acquisitions).

CRITERIA	WLN
4.3 Will new features and systems be required to obtain this growth?	4.3 Some new features, e.g., interlibrary loan, to fulfill a development plan.

BCUC FEATURE COMPARISON -- PUBLIC ACCESS

CRITERIA	WLN
1.0 General Information	MAINFRAME - CATALOGING
1.1 Is there a public access system?	1.1 There is no separate system. There is experimentation with public use of the standard inquiry module in State Library.
1.2 How long has it been in use?	1.2 Experiment at State Library has been running for nine months.
1.3 How many users are on the system?	1.3 State Library only.
2.0 Search	
2.1 What files are available for searching?	2.1 Bibliographic file, authority file, and summary holding file.
2.2 How can the files be searched?	2.2 All the normal WLN search modes are available.
3.0 System Messages	
3.1 Does the system prompt the user?	3.1 No.
3.2 Is there menu selection for functions?	3.2 No.
3.3 Are the system explanations expandable, i.e., novice and expert?	3.3 No.
	MINI-CIRCULATION
	1.1 Yes.
	1.2 Expected operational use end of 1979.
	1.3 None
	2.1 Item file
	2.2 Normal circulation inquiry mode.
	3.1 Yes.
	3.2 Yes.
	3.3 There is an expanded explanation of options.

BCUC FEATURE COMPARISON -- RECON METHODS

CRITERIA	WLN
1.0 What are the recon input methods? a) batch b) on-line	1.0 a) Yes. b) Yes.
2.0 What are the recon access keys for on-line and batch? a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system ID no.	2.0 Recon can be done either in the batch or on-line mode. For on-line the search keys are the same as those available for current materials. For batch, the search keys are more restricted - either LC card number or the first twenty characters of the title including initial articles plus call number plus first ten characters of the edition statement, plus first ten characters of the publisher's name, plus the last two digits of the publication year, plus a comment for matching the output in the user's institution.
3.0 What is the turn-around with the batch input?	3.0 Matching monthly.
4.0 What are the differences in service, products, and costs with the on-line recon service as compared to the regular on-line cataloging service?	4.0 There are no differences in service. The batch input is priced more cheaply.
5.0 How many users are using the recon facility for recon purposes?	5.0 Until June 30, 1979, about 50% of all WLN users. Since July 1, 1979, 7 users are using RECON facilities. Does not include many doing original input (at least 5).
6.0 Is the entire data base and system facilities available for recon? If not, what is available?	6.0 Batch system matches only against full bibliographic records. Interim records are ignored. On-line system matches against any record in the bibliographic file.

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION

CRITERIA	WLN
1.0 What information is given to the institution who chooses to replicate the software?	
1.1 System documentation	1.1 Yes. There is both program and user documentation for the bibliographic and acquisitions systems.
1.2 Program documentation (including macros, tables, subroutines, utilities)	1.2 Yes.
1.3 Is the replicated institution given source or object code?	1.3 Source code and object code (load modules) will be provided.
1.4 Run instructions	1.4 Yes, but it is Boeing Computer System's run instructions and may need modification.
1.5 Run jcl	1.5 Yes, but would most likely need to be modified to match operating system and conventions of user.
1.6 Control forms	1.6 No, but can supply program check-out routines currently available under Wylbur.
2.0 What is the training program for replication?	
2.1 Operations staff	2.1 One operations person from user's site must spend one month in WSU computer facility becoming familiar with the system operation.
2.2 Programming staff	2.2 Up to one month working with the WLN programming staff.
2.3 Control staff	2.3 None.
2.4 "Network" staff	2.4 Two weeks concentrated training at user's site, and user's staff must attend WLN MARC schools and spend additional time at WLN staff office.

BCUC FEATURE COMPARISON -- REPLICATION INFORMATION
(CONT'D)

CRITERIA	WLN
2.5 What recourse does the replicated user have to resolve problems during the first year of operations?	2.5 Phone contact as needed.
3.0 What is the procedure for bringing up the software in the replicated facility?	3.0 See attached.
4.0 What is the acceptance test criteria?	4.0 See attached.
5.0 What happens to any guarantees or warranties, if the software is modified?	5.0 See attached.
6.0 Does the replicated institution receive software updates, as well as documentation updates?	6.0 Yes.
7.0 Staff	
7.1 How many staff are needed to run a replicated system?	7.1 Systems and Programming - one data base Administrator with knowledge of ADABAS. One teleprocessing specialist with knowledge of CICS, terminals, and terminal networks. One programmer analyst with some knowledge of BAL and COBOL for source file maintenance. Computer Operations - ADABAS maintenance - 1/4 FTE CICS maintenance - dependent upon the version.
7.2 What would each staff member's responsibility be?	7.2

BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	WLN
1.0 Files	
1.1 Resource files can be searched by:	
a) LC no.	1.1 a) Yes.
b) ISBN no.	b) Yes.
c) ISSN no.	c) Yes.
d) system no.	d) Yes.
e) author key	e) No, only conferences and corporate entries have keyword search capability. Can truncate others from right.
f) author words	f) Yes.
g) title key	g) Yes.
h) title words	h) Only as part of key word search.
i) subject	i) Yes.
j) series	j) Yes.
1.2 Authority file	
a) system no.	1.2 a) No.
b) heading	b) Yes; further, user can specify main head only, or subheadings only, or any part.
c) key	c) Keyword for corp/conf. author.
1.3 Library bib files a) LC no. b) ISBN no. c) ISSN no. d) system no. e) author key f) author words g) title key h) title words i) series	1.3 User access to bibliographic file always the same. Must go through bibliographic file to access holdings, working and waiting files. Holdings directly accessible with LCCN. Note that institution dependent headings (not in the authority file) are retrievable only by the owning library.

CRITERIA	WLN
2.0 Search Types	
2.1 Is there a search only capability?	2.1 No. Not provided by network policy.
2.2 Is it possible to browse through files? Which ones?	2.2 User can browse forward in authority files, and then access bibliographic file. User goes through work files sequentially.
2.3 Can one browse through the authority files, and then display bib records?	2.3 Yes.
2.4 a) Does the system handle Boolean Searches?	2.4 a) Yes, operators are "OR", "AND", and "BUT NOT".
b) What are the limits to the use of the Boolean capability - size and procedures?	b) If any term retrieves over 1250, the search aborts. This limit, which can be changed, is due to t the interium data space requirement for ADABAS.
2.5 Is there a novice and expert method of searching?	2.5 No.
2.6 a) Is the search logic designed for the public or for library employees?	2.6 a) Library employees.
b) Is anyone presently using the system for direct patron inquiry?	b) There is an experiment in progress at the Washington State Library (WSL) for direct patron inquiry.
2.7 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	2.7 Yes, the SELECT command allows one to view various records, at once or separately, in several display formats. When another bibliographic, authority, or holdings search is entered a new list of records is created. The RESTORE command allows one to return to the previous search list.
2.8 Can the results of one search be the argument of another finer search?	2.8 Yes.

BCUC FEATURE COMPARISON -- SEARCH

CRITERIA	WLN
2.9 Can a hierarchy of source data base and other library data bases be established for matching?	2.9 No. This is not an issue now because there is only one resource file. If another collection is implemented, then this heirarchy feature would be needed. Search control is consistent with the file structure.
3.0 Display	
3.1 If the system retrieves more than one match, what information is displayed?	3.1 Varies with file searched: Bibliographic file, then display is Index or Minimum or Summary. Authority file, then display is Heading. Holdings file, then display is Minimum or Summary. Working file, then display is Summary. Waiting file, then display is Summary. Summary display is number of records only. Minimum display is author, title, LC card number, physical description, call number, holdings symbol, union holdings statement. Index display is author, title, edition, imprint, collation, and numerous serials notes. Heading display is the heading only.
3.2 If one record matches the key, does the system display the full record immediately?	3.2 Not automatically. User must specify display option.
3.3 When a hit is displayed, are the holdings codes of other institutions also displayed?	3.3 Yes. (Holdings file search.)
3.4 Can the searcher request to view another user's record at this point?	3.4 Presently holding insitution codes always display. Detailed holdings will display in the future at the discretion of the holding institution.
3.5 a) What is the maximum number of hits by search type?	3.5 a) 1250 on all searches. 300 words on the truncation in "Key" file searches.
b) What happens when a user hits this number?	b) The search aborts.

BCUC FEATURE COMPARISON -- SERIALS

CRITERIA	WLN
1.0 General Information	
1.1 Is the serials subsystem working?	1.1 No.
1.2 How long has it been operational?	1.2 Not applicable.
1.3 How many users are there? Who are they?	1.3 Not applicable.
1.4 Are the CONSER records available as a resource file? How many?	1.4 Only the authenticated CONSER records are available in the bibliographic system.
2.0 What function does the subsystem perform?	
2.1 serials check-in	2.1 Not applicable.
2.2 serials claim	2.2 Not applicable.
2.3 subscription monitoring (ordering, renewal, cancellation)	2.3 In the acquisition system.
2.4 bindery control	2.4 Not applicable.
2.5 Can holdings be used in a summary fashion as well as detailed holdings?	2.5 Summary holdings may be entered through the regular input methods. Detailed holdings are not presently available.
3.0 Linkage to other subsystems	
3.1 What is the linkage between serials and acquisition?	3.1 No linkage. But some functions are done in the acquisition system.
3.2 What is the linkage to the circulation and public access?	3.2 No linkage.

BCUC FEATURE COMPARISON -- USER INSTRUCTION

CRITERIA	WLN
1.0 Is the documentation indexed?	1.0 No.
2.0 Are there samples of the procedures within the text?	2.0 Yes.
3.0 Does the documentation follow the different operations from beginning to end?	3.0 In some cases it does. For example, the inquiry reference manual.
4.0 Preparation	
4.1 a) What is the procedure for creating and releasing new or updated documentation?	4.1 a) Many changes appear only in the technical bulletins. Reference manuals not revised for each new change.
b) Who is responsible for writing?	b) The responsibility is not assigned to one person. Both WSL and WLN staff initiate change announcements. At present, no staff member is responsible for program documentation.
c) Who reviews the draft?	c) The draft announcement is reviewed by whomever is responsible for the subsystem in question among the network staff. In addition, at least one user of the system will review the announcement upon request from WLN.
4.2 a) What is policy on features? The documentation accompanies the announcement of a new feature?	4.2 a) New features are not "released": (that is made public) until documentation of some part is available. The feature may be on the system, but users are unaware of it.
b) Are there guinea pig users who check out a new feature prior to general announcement of the features released?	b) There are guinea pig users, who test out new features.

BCUC FEATURE COMPARISON -- USER INSTRUCTIONS

CRITERIA	WLN
5.0 What portions of the system are not included in the user documentation?	5.0 There are only a few miscellaneous commands in the system that have not been sufficiently tested to be released. There are commands for network staff that are documented, but not available for users. There are a few commands and features especially in the acquistion system that appear in the documentation, but are not implemented.
6.0 Updates	
6.1 How often is the user documentation updated?	6.1 Not often, and not on a regular schedule.
6.2 What is the date of the last update?	6.2 Refer to individual manuals: some are Spring 1979 and some are 1977.
7.0 Is the documentation clear and easy to use? Understandable?	7.0 The documentation is uneven. The earlier Boeing documents are too abstract. To revise the documentation to make it consistently satisfactory, WLN estimates that it would require 2 years at the level of 1.5 FTE.

APPENDIX G

COST ANALYSIS - DETAIL

The page numbers given in parentheses refer to the source pages in the previously cited final report on The Feasibility Substudy, British Columbia Library Network, by Dr. Ralph M. Shoffner and Mary A. Madden.

FIGURE 14

COMPUTER EQUIPMENT COSTS

BC LIBRARY NETWORK - ALL APPLICATIONS
(Replicated WLN Facility)
(In 1979 Canadian dollars)
(Import Duties and Federal Taxes Excluded)

	Low Purchase	Monthly Maintenance	Low Purchase	Monthly Maintenance
	($1000 CAN)		($1000 CAN)	
Equipment				
Central Processor (2 MB, 4 MB)	210	2.0	309	0.7
Line Printer	43	0.4	43	0.4
Card Reader	19	0.1	15	0.1
Tape Ctl & 4 drives (6250 bpi)	69	0.7	151	0.7
Disk Ctl & drives (3 BB)	168	1.7	244	0.9
Subtotal	509*	4.9*	762*	2.8*
Communications				
Controller	42	0.8	55	0.4
Lines & Moden (*1)	1	22.2	2	22.2
Display Controllers & Terminals (16,32)	143	2.6	278	1.8
Display Terminals (78,62)	151	2.0	179	1.2
Display Printers (24)	155	1.8	155	1.8
Subtotal	492*	29.4	669*	27.4*
Auxiliary Equipment	25*	0.5*	42*	0.8*
Storage Racks & Cabinets	16*	---*	24*	---*
Initial Supplies				
Tapes & Disks	76	---	97	---
Other Supplies	25	---	50	---
Subtotal	101*	---*	147*	---*
Total Equipment	1,143*	34.8*	1,644*	31.0*

* The costs are based upon an independent installation.
The low costs are estimated based upon a used IBM System 370/148 and the least expensive compatible equipment, new or used, available.
The high costs are based upon a much more powerful system, a new IBM 4341.
The import duty and federal taxes are excluded. On the assumption that the system can be obtained under educational conditions (duty and tax free).

(*1) Modems are included in the telephone line charges.

FIGURE 15

COMPUTER EQUIPMENT COSTS

BC LIBRARY NETWORK - CATALOGING ONLY
(Replicated WLN Facility)
(In 1979 Canadian dollars)
(Import Duties and Federal Taxes Excluded)

	Low Purchase ($1000 CAN)	Monthly Maintenance	Low Purchase ($1000 CAN)	Monthly Maintenance
Equipment				
Central Processor (2MB, 4MB)	210	2.0	309	0.7
Line Printer	43	0.4	43	0.4
Card Reader	19	0.1	15	0.1
Tape Ctl & 4 drives (6250 bpi)	69	0.7	151	0.7
Disk Ctl & drives (3 BB)	168	1.7	244	0.9
Subtotal	509*	4.9*	762*	2.8*
Communications				
Controller	42	0.8	55	0.4
Lines & Modems(*1)	1	14.3	2	14.3
Display Controllers & Terminals (16,24)	143	2.6	197	1.4
Display Terminals (,11)	37	0.5	32	0.2
Display Printers (0)	---	---	---	---
Subtotal	223*	18.2*	286*	16.3*
Auxiliary Equipment	25*	0.5*	42*	0.8*
Storage Racks & Cabinets	16*	---*	24*	---*
Initial Supplies				
Tapes & Disks	76	---	97	---
Other Supplies	25	---	50	---
Subtotal	101*	---*	147*	---*
Total Equipment	874*	23.6*	1,261*	19.9*

* The costs are based upon an independent installation. The low costs are estimated based upon a used IBM system 370/148 and the least expensive compatible equipment, new or used, available. The high costs are based upon a much more powerful system, a new IBM 4341. In this case, import duty and federal taxes are excluded, on the assumption that the system can be obtained under educational conditions (duty and tax free).

(*1) Modems are included in the telephone line charges.

FIGURE 16

TOTAL TERMINALS PROJECTED

BCUC NETWORK

	Terminals For:*1 Cataloguing	Acquisitions	Public Service
A. Colleges	#	#	#
1. BCIT/PVI	1	2	1
2. Camasun	1	-	1
3. Capilano	1	-	1
4. Cariboo	1	1	1
5. Douglas	1	1	4
6. East Kootenay	1	1	1
7. Fraser Valley	1	1	1
8. Justice Institute	1	-	1
9. Malaspina	1	-	1
10. New Caledonia	1	1	1
11. North Island	-	-	-
12. Northern Lights	1	-	1
13. Northwest Community	1	-	1
14. Okanagan	1	1	1
15. David Thompson	1	-	1
16. Selkirk	1	-	1
17. Vancouver Community	1	2	3
Subtotal, Colleges	16	10	21
B. Universities			
1. UBC	5	7	2
2. U. Vic.	4	5	2
3. SFU	3	3	2
Subtotal, Universities	12	15	6
C. Other			-
1. Burnaby Public	1	2	
2. Legislative Library	1	1	1
3. Richmond Public	1	2	-
4. Special Libs., Cat.	1	-	1
5. BCUC Network Ofc.	3	-	-
Subtotal, Other	7	5	2
GRAND TOTAL	35	30	29
		94	

*1 Terminals are based upon:
- a. Cataloging; 1 terminal for each 12,000 titles added per year
- b. Acquisitions; 1 terminal for each 6,000 titles added per year
- c. Cataloging and acquisitions; 1 terminal per 4,800 titles added per year
- d. Public service; 2 terminals for each university
  1 terminal for each college location or special library.

FIGURE 17

# of Terminals (Video or Print) Per Location	CAT	CAT & ACQ*[1]	ALL*[1]
	NUMBER OF LOCATIONS HAVING TERMINALS		
1	20		5
2		9	
3	2	7	9
4	1	5	7
5	1		5
6			
7		1	
8			1
9			
10		1	
11			1
12			
13		1	
14			
15			1
Total Locations	24	24	29
Total Video Terminals	35	65	94
Total Print Terminals	--	24	24
If Stand alone terminals			
# of Modems @ terminal	24	30	40
# of 4 port MCUS	5	30	35
If 327X Controllers			
# of modems @ terminal	24	26	31

*1. With one printer terminal per technical services location.

FIGURE 18

PERSONNEL PROJECTION
FOR OPERATION OF
BC LIBRARY NETWORK
(Replicated WLN Facility)

(In 1979 Canadian dollars)

	CATALOGING ONLY		ALL APPLICATIONS	
GROUP AND POSITION	FTE	COST	FTE	COST
Administrative				
Director	1	$ 42,000	1	$ 42,000
Assistant to the Director	1	28,000	1	28,000
Adm. Services Manager	1	15,000	1	15,000
Switchbd. & Mail Dist.	1	11,000	1	11,000
Secretarial	3	36,000	3	36,000
Subtotal, Administrative	7	$132,000*	7	$132,000*
Planning & Finance				
Manager	1	$ 30,000	1	$ 30,000
Accountant	1	15,000	1	15,000
Bookkeeping & Purch. Clerk	1	11,000	1	11,000
Subtotal, Planning & Finance	3	$ 56,000*	3	$ 56,000*
Marketing, Lib. Support & Data Base				
Manager	1	$ 30,000	1	$ 30,000
Lib. Rep. & Trouble Desk	2	44,000	3	66,000
Duplicate Control	1	16,000	1	16,000
Authority Control	3	66,000	3	66,000
Subtotal, Mktg., Lib. Suppt.	7	$178,000*	8	$178,000*
Data Processing				
Manager	1	$ 35,000	1	$ 35,000
Analyst & Pgm. Manager	1	27,000	1	27,000
Systems & Telecom. Pgmr.	1	26,000	1	26,000
Database Mgr./Analyst	1	24,000	1	24,000
Systems Analysts	1	23,000	2	46,000
Applications Pgmr.	4	84,000	5	105,000
Technical Writer	-	--	1	18,000
Terminal Maintenance	1	16,000	1	16,000
Computer Operator	3	48,000	3	48,000
Tape Librarian	1	14,000	1	14,000
Scheduling Clerk	1	16,000	1	16,000
Subtotal, Data Processing	15	$313,000*	18	$375,000*
TOTAL DIRECT	32	$657,000	36	$741,000
FRINGE BENEFITS (20%)		131,000		148,000
GRAND TOTAL	32	$788,000	36	$889,000

FIGURE 19
SUMMARY OF START UP COSTS
B.C. LIBRARY NETWORK
IMPORT DUTY AND FEDERAL TAXES WAIVED

(In thousands of 1979 Canadian dollars)

	Cataloguing only		All applications	
	Low	High	Low	High
Design (6 months)	$ 130*	$ 175*	$ 150*	$ 200*
Implementation (18 months)				
Computer Equipment(1)	874*	1,261*	1,143	1,644*
Software				
ADABAS(2)	154	154	154	154
WLN system(2)	234	234	234	234
Total Software	388*	388*	388*	388*
Other Implementation				
Personnel (18 months)	842	842	842	842
BCUC/UTLAS Data Base Purchase	40	60	40	60
Data Processing Supplies	15	20	20	30
Maintenance				
Central Computer (15 mos)	81	54	81	54
Communications				
limited system (6 mos)	15	12	17	15
full system (3 mos)	55	49 ✓	88	82
Software				
ADABAS (6 mos net warranty)	4	4	4	4
WLN (12 months)	12	12	12	12
IBM (18 months)	49	49	49	49
Space & Utilities	90	150	90	150
Office Supplies, Tel & Tel, etc.	60	80	75	90
Travel	30	45	45	60
Professional Fees	30	30	30	30
Total, Other Implementation	$ 1,323*	$ 1,407*	$1,393*	$1,478*
GRAND TOTAL	$2,715	$3,231	$3,074	$3,710
Amortized Start up, Annual Cost				
Computer Equipment & Software (5 years 14%)	$ 346	$ 452	$ 420	$ 557
All other (10 years 14%)	262	285	278	303
Total annual	$ 608	$ 737	$ 698	$ 860

(1) As indicated by the IBM representative, the equipment costs are reduced by 16% to account for the elimination of duty and federal tax requirements dues to educational and research purposes.

(2) Cost reduced by 22% to account for elimination of duty and federal tax.

FIGURE 20

PERSONNEL PROJECTION
FOR IMPLEMENTATION OF
BC LIBRARY NETWORK
(Replicated WLN Facility)
(In thousands of 1979 Canadian dollars)

	Six Month Period					
	1		2		3	
Group and Position	FTE	Cost ($1000)	FTE	Cost ($1000)	FTE	Cost ($1000)
Administrative						
Director	1	21	1	21	1	21
Assistant to the Director	1	14	1	14	1	14
Adm. Services Manager	1	7	11	8	1	8
Switchbd. & Mail Dist.	-	--	-	--	-	--
Secretarial	1	6	1	6	2	12
Subtotal, Administrative	4*	48*	4*	49*	5*	55*
Planning & Finance						
Manager	1	15	1	15	1	15
Accountant	-	--	-	--	-	--
Bookkeeping & Purch. Clerk	1	5	1	6	1	6
Subtotal, Planning & Finance	2*	20*	2*	21*	2*	21*
Marketing, Lib. Support & Data Base						
Manager	1	15	2	15	2	15
Lib. Rep. & Trouble Desk	2	22	2	22	2	22
Duplicate Control	-	--	1	8	1	8
Authority Control	-	--	1	11	3	33
Subtotal, Mktg., Lib. Suppurt	3*	37*	5*	56*	7*	78*
Data Processing						
Manager	1	17	1	18	1	18
Analyst & Program Manager	1	14	1	14	1	14
Systems & Telecom. Pgmr.	1	13	1	13	1	13
Database Mgr./ Analyst	1	12	1	12	1	12
Systems Analysts	-	--	-	--	-	--
Applications Pgmr.	2	21	3	32	3	32
Technical Writer	-	--	-	--	-	--
Terminal Maintenance	-	--	-	--	1	8
Computer Operator	-	--	2	16	3	24
Tape Librarian	-	--	-	--	1	7
Scheduling Clerk	-	--	-	--	-	--
Subtotal, Data Processing	6*	77*	10*	112*	12*	128*
TOTAL DIRECT	15	182	21	238	26	282
FRINGE BENEFITS (20%)	-	36	-	48	-	56
GRAND TOTAL	15	218	21	286	26	338

* Amortization rate based upon 5 years, 14% interest:
6 month payment is 0.115 times the purchase cost.

FIGURE 21

IMPLEMENTATION PHASE
COMPUTER EQUIPMENT
AMORTIZATION COSTS
(In thousands of 1979 Canadian Dollars)

	Six Month Period		
Computer Equipment	1 ($1000)	2 ($1000)	3 ($1000)
Amortization			
Central processor	42	42	42
Line printer	6	6	6
Card reader	2	2	2
Tape control & 4 drives	21	21	21
Disk control	10	10	10
Disk drives (1/2,1,1)	12	24	24
Subtotal	93*	105*	105*
Communications Control (1/2,1,1)	4	8	8
Display control with terminals (1/32,4/32,19/32)	1	5	23
Added display terminals (-,4/62,30/62)	-	2	12
Display printers (-,4/24,12/24)	-	4	11
Subtotal	5*	19*	54*
Auxilary equipment (-,1/2,1)	-	3*	6*
Storage racks & cab (-,1/4,1)	-	1*	3*
TOTAL EQUIPMENT AMORTIZATION PAYMENTS	98	128	168

Amortization rate based upon 5 years, 14% interest: 6 month payment is 0.115 times the purchase cost.

FIGURE 22

IMPLEMENTATION PHASE
OTHER COSTS
(In thousands of 1979 Canadian Dollars)

	Six Month Period		
	1	2	3
Software	($1000)	($1000)	($1000)
IBM	16	16	16
ADABAS purchase (1)	18	18	18
maintenance	-	-	4
WLN purchase (2)	27	27	27
maintenance	-	6	6
Subtotal Software	61*	67	71*
Equipment Maintenance			
Central system (incl COM control)	19	19	19
Display control & 1 display	-	1	6
Display terminals	-	-	3
Display printers	-	2	5
Subtotal, Equipment Maintenance	19*	22*	33*
Lines and Modems	1*	4*	33*
BCUC/UTLAS Data Base	-	20*	40*
Data Processing Supplies	25*	50*	100*
Office Supplies	7*	12*	15*
Travel	5*	10*	12*
Professional Fees	10*	10*	10*
Space	50*	50*	50*
TOTAL, OTHER COSTS	178	245	364

(1) Purchase price of $154,000 amortized over 5 years at 14% interest: 6 month ratio times purchase is 0.115.

(2) Purchase price of $234,000 amortized over 5 years at 14% interest.

FIGURE 23

IMPLEMENTATION PHASE
SUMMARY OF COSTS
(In thousands of 1979 Canadian Dollars)

	Six-Month Period:	1	2	3
1.	Equipment Amortization	$ 98,000	$128,000	$168,000
2.	Personnel	218,000	286,000	338,000
3.	Other Costs	178,000	245,000	364,000
	Period Total	$494,000	$659,000	$870,000

IMPLEMENTATION PHASE TOTAL *** $2,023,000 ***

FIGURE 24

EXPECTED ANNUAL OPERATING COSTS
B.C. LIBRARY NETWORK
(In thousands of 1979 Canadian dollars)

	Cataloging only		All applications	
	Low (1000)	High (1000)	Low (1000)	High (1000)
Personnel				
Direct Staff (32,36)	$ 657	$ 657	$ 741	$ 741
Fringe Benefits	131	131	148	148
Subtotal, Personnel	$ 788*	$ 788*	$ 889*	$ 889*
System Amortization				
Equipment (5 years, 14%)	$ 346	$ 452	$ 420	$ 557
System setup (10 years, 14%)	262	285	278	303
Subtotal, Amortization	$ 608*	$ 737*	$ 698*	$ 860
Communications & Maintenance				
Communications (including terminals)	$ 218	$ 196	$ 353	$ 329
Computer	65	43	65	43
Software	53	53	53	53
Data Base	13	15	13	15
Subtotal, Communications & Maintenance	$ 349*	$ 307*	$ 484*	$ 440*
Space & Other Expenses	$ 60	$ 100	$ 60	$ 100
Data Processing Supplies	$ 20	$ 30	$ 25	$ 35
Office, Supplies, Tel & Tel, etc.	$ 40	$ 54	$ 50	$ 60
Travel	$ 20	$ 30	$ 30	$ 40
Professional Fees	$ 20	$ 20	$ 20	$ 20
Subtotal, Other Expenses	$ 160*	$ 234*	$ 185*	$ 255*
GRAND TOTAL	$1,905	$2,066	$2,256	$2,444

FIGURE 25

ADDITIONAL COSTS FOR SUPPORT OF POTENTIAL NEW MEMBER LIBRARIES

Video Terminal Requirements Library:	Cataloging	Acquisitions	Public Service
1. Vancouver Public	2	3	1
2. Greater Victoria Public	2	3	1
3. Other Lower Mainland Libraries (3)	3	3	3
	7	9	5

Distribution of terminals

# of Terminals (Display or Print) per locations	Catalog only	Number of Locations Catalog & Acq.	All
1	3	-	-
2	2	-	-
3	-	3	-
4	-	-	3
5	-	-	-
6	-	2	-
7	-	-	2
Total locations	5	5	5
Total video terminals	7	16	21
Total print terminals	-	5	5

Display Controllers (with 1 display) and added displays

# with no added display	3	-	-
# with 1 added display	2	-	-
# with 2 added displays	-	3	-
# with 3 added displays	-	-	3
# with 4 added displays	-	-	-
# with 5 added displays	-	2	-
# with 6 added displays	-	-	2
Total controllers (with 1 display)	5	5	5
Total terminal adapters	-	7	12
Total added displays	2	11	16
Total printers	-	5	5

FIGURE 25

(Continued)

Additional Amortized Purchase Costs (High Estimate) (With import duty and federal tax)			
Controllers	$47,870	$47,870	$47,870
Terminal adapters	-	5,341	9,156
Added displays	6,878	37,829	55,024
Total printers	-	38,180	38,180
Total Purchase	$54,748	$129,220	$150,230
Less import duty and federal tax (16%)	8,760	20,675	24,037
Net Purchase	$45,988	$108,545	$126,193
	* *	* * *	* *
Annual Cost (with 5 year, 14% amortization)	$12,606*	$ 29,755*	$ 34,592*
Telephone Lines & Modems	$ 1,125*	$ 1,125*	$ 1,125*
Maintenance			
Controllers	$ 272	$ 272	$ 272
Terminal adaptors		13	22
Displays	37	204	297
Printers	-	369	369
Subtotal Maintenance	$ 309*	$ 858*	$ 960*
GRAND TOTAL, ADDED ANNUAL COST	$14,040	$ 31,738	$ 36,677

APPENDIX H

SUPPORT PROVIDED BY THE COLLEGE BIBLIOCENTRE

APPENDIX H

SUPPORT PROVIDED BY THE COLLEGE BIBLIOCENTRE

The following suggested approach and pricing was provided by Manek Khambatta Projects Leader.

1. INITIAL CONTACT. Representatives from Bibliocentre would spend three days at BCUC meeting with representatives from BCUC and the organization that will provide computing support for the BCLN. The purpose is to review all elements of the installation plans and to make arrangements for an appropriate installation support agreement.

   Location: BCUC

   Persons: Bibliocentre - Project Leader; technocrat (1); librarian (1). BCUC as defined.

   Cost: Out-of-pocket expenses associated with the trip.

2. SUPPORT AGREEMENT. Bibliocentre will work with BCUC to establish an appropriate agreement under which to provide the DOBIS/LIBIS software and installation support. Bibliocentre wishes to work with a commercial organization in the supply of its support services, so that the future demand on the Bibliocentre staff would not be as great should the system be provided subsequently to other libraries. The organization would need to be mutually acceptable and Bibliocentre has not initiated these arrangements.

   Location: BCUC and Bibliocentre

   Persons: Bibliocentre Projects Leader and other staff as necessary

   Cost: Any necessary travel costs.

3. DOBIS/LIBIS LICENSING. Following establishment of an agreement with BCUC, Bibliocentre will act on behalf of BCUC to obtain licenses and the DOBIS/LIBIS software from IBM.

   Location: Bibliocentre

   Persons: Bibliocentre Projects Leader; technocrat (1)

   Cost: Any necessary payments to IBM

4. BIBLIOCENTRE MODIFICATIONS. Bibliocentre will supply the modifications and extensions that they have made to the software.

Location: Bibliocentre

Persons: Bibliocentre technocrats as necessary

Cost:

On-line system, basic	$25,000
MARC input & batch products software	9,000
Total	$34,000

5. TEST SYSTEM AT BIBLIOCENTRE. Bibliocentre will set up a copy of the modified system on the Bibliocentre's computer system. The copy will be known as BCUC-DOBIS-TEST and it will be used for system checkout, acceptance and training. The copy will be as it is in use at the Bibliocentre.

Location: Bibliocentre

Persons: Bibliocentre technocrats as necessary

Cost: None

6. SYSTEM FAMILIARIZATION - 1. Bibliocentre will supply one BCUC technocrat with three days of DOBIS/LIBIS familiarization on site at Bibliocentre.

Location: Bibliocentre

Persons: BCUC technocrat (1)
Bibliocentre technocrats as needed.

Cost: Any necessary travel costs.

7. REMOTE USE. Bibliocentre will make BCUC-DOBIS-TEST available to BCUC, over either a dial up or a leased line, in order to provide for remote familiarization with the system. This remote use will be restricted to one line with a maximum of four terminals.

Location: Bibliocentre

Persons: Bibliocentre technocrats as necessary

Cost: Any out-of-pocket costs for equipment and communications

8. SYSTEM ACCEPTANCE. BCUC technocrat will check out BCUC-DOBIS-TEST to asure that it is in proper operable condition and will accept the system when satisfied.
    Location: Bibliocentre
    Persons: BCUC technocrat (1)
        Bibliocentre technocrats as needed
    Cost: Any necessary travel costs.

9. SYSTEM FAMILIARIZATION - 2. Bibliocentre will provide two BCUC librarians with three days of DOBIS/LIBIS familiarization on site at Bibliocentre.
    Location: Bibliocentre
    Persons: BCUC librarians (2)
        Bibliocentre libraries as needed
    Cost: Any necessary travel costs.

10. BCUC DATA BASE PROCUREMENT. BCUC will make all arrangements to obtain a copy of their data base from UTLAS and to make arrangements for the supply of regular updates from UTLAS so long as any BCUC member libraries remain on UTLAS. The data base and updates will be supplied to the Bibliocentre.
    Location: UTLAS and Bibliocentre
    Persons: BCUC personnel
    Cost: Any necessary payments to UTLAS and travel costs

11. BCUC DATA BASE LOADING. Bibliocentre will load the BCUC data base provided by UTLAS into BCUC-DOBIS-TEST. Before loading the entire data base, the loading will be checked to assure that the programs are translating the records properly.
    Location: Bibliocentre
    Persons: Bibliocentre technocrats as needed
        BCUC technocrat (1) (optional)
    Cost: For the first 750,000 records $30,000
        For the next 250,000 records $0.04 per record
        Any necessary travel costs.

12. INSTALLATION PREPARATION. Bibliocentre will send BCUC the technical detail needed to perform a sys-gen to configure the computer operating system to support a copy of BCUC-DOBIS-TEST. BCUC will then carry out the sys-gen as indicated.

    Location: BCUC
    Persons: BCUC technocrat
    Cost: None

13. INSTALLATION. Bibliocentre will transfer and install a copy of BCUC-DOBIS-TEST and the BCUC data base in the computing facility that will be supporting BCUC.

    Location: BCUC
    Persons: Bibliocentre Projects Leader
    Bibliocentre technocrat (1) (additional at Bibliocentre's discretion)
    Bibliocentre computer operator (1)
    BCUC technocrats and computer operators - as desired
    Cost: All necessary travel costs.

14. LIBRARY USER TRAINING. Bibliocentre will provide two librarians for one week of user training on site at BCUC, with a following of one librarian for one week on site at BCUC. The group to be trained should be about ten in number.

    Location: BCUC
    Persons: Bibliocentre librarians (2)
    BCUC librarians, network office (4)
    BCUC librarians, libraries (6)
    Cost: Any necessary travel costs

APPENDIX I

REPORT OF A VISIT TO THE NATIONAL LIBRARY OF CANADA AND CISTI

May 1-2, 1980

by Paul E. Baldwin, Director, BCUC

I. Purpose of the Visit

The purpose of the visit was to respond to an NLC request concerning the reporting of BCUC holdings to the National Union Catalogue and to follow-up on recommendations and suggestions made by the consultants of the BCUC Replication Study's Feasibility Substudy. Topics of discussion were as follows:

1. Reporting arrangements of BCUC holdings to the national union catalogue. Access to BCUC records by NLC through REF CATSS using precise keys retrieval.

2. Investigation of the willingness and ability of the National Library to support BCUC in the event that it elects to replicate the DOBIS system, especially in the areas of:

    a. Transfer of the BCUC data files from UTLAS and building the "shared file" and BCUC data base on the NLC facility.

    b. Implementation of authorities control and switching to AACR2 headings.

    c. Support of a DOBIS-BCUC pilot project as defined in the BCUC Replication Study Feasibility Substudy.

    d. Support and costs of BCUC to use NLC DOBIS for the BC Public Libraries RECON Project.

    e. Use of NLC to produce the BCUC COM catalogue using the Canadiana format of register scroll COM fiche.

3. To investigate areas of cooperation and shared development after BCUC establishes its provincial bibliographic utility and network.

4. To gain a better understanding of how users use the DOBIS System at NL and CISTI.

II. Schedule of Visits and Meetings at NL and CISTI.

A. THURSDAY MAY 1, 1980

9:00-10:00 a.m. Meeting at NL with Louis Forget; Cynthia Durrance; Mary Joan Dunn; Jean Higginson; Flora Patterson; and Barry Burns.

10:30-3:30 p.m. Visit to DOBIS Project at CISTI with Bill Newman and Mary Joan Dunn.

II. Schedule of Visits and Meetings (Continued)

B. FRIDAY MAY 2, 1980

9:00-10:30 a.m. Meeting at Public Services Branch with Jean Higginson to see and discuss DOBIS Installations. Most of time was spent with Nancy Brodie in the Union Catalogue of Books.

10:30-12:00 p.m. Meeting with Barrie Burns in the National Cataloguing Branch.

1:00-3:00 p.m. General wrap-up discussion with Louis Forget and Cynthia Durrance.

3:30-4:30 p.m. At CISTI interviewing Judy Green, Head of Cataloguing at CISTI to discuss a Serials Conversion project by CISTI using DOBIS; and contrast between their use of UTLAS and DOBIS.

III. Results and Findings

A. Reporting to the National Union Catalogue

1. Paul Baldwin is to follow-up with UTLAS to open up the BCUC files to NLC using REF CATSS. BCUC records can be searched by precise key, but not through the browsable access.

2. BCUC is committed to reporting its holdings on magnetic tape to NLC-NUC in the prescribed CAN-MARC reporting format as soon as it has the facility to do this.

B. Building a BCUC-DOBIS Data Base

1. NLC is willing to consider supporting the loading of BCUC files at NLC to build a BCUC-DOBIS Data Base. This would also serve to report BCUC holdings to NLC-NUC.

2. NLC could not begin loading until January 1981. This would result in a delay of loading the NL and LC name authority records. NLC would not charge CPU processsing for the loading if it were done January-March 1981. But BCUC would have to contract and pay for programmer consultants to do required software development for loading. The software contract would have to be let by BCUC before September 1980, if the January 1981 deadline is to be met.

3. When BCUC replicated DOBIS, then NLC would simply off-load the entire DOBIS file off disc in a manner similar to what WLN is committed to doing.

III. Results and Findings (Continued)

B. Building a BCUC-DOBIS Data Base (continued)

4. If BCUC off-loaded the DOBIS file after NLC had loaded the authorities records, then it would get all names out in the AACR2 form where this had been identified on the authorities records.

5. At present time, NLC does not get to retain any income from the DOBIS charges, therefore it would prefer BCUC to supply needed staff resources through contracting to private software firms in Ottawa for any development to support data base loading and replication.

6. Because BCUC would also get the National Union Catalogue as part of the DOBIS off-load, careful statements as to policy would have to be developed at the time BCUC got serious about considering this DOBIS-Data Base Development.

7. One of the most serious resource requirements will be the review of records which are partially matched. This would also be true of a WLN data base load; but WLN has completely developed the review capability in batch loading records. NLC has yet to do this development. It will gain this experience in loading CISTI records from UTLAS in December 1980.

C. Support of BCUC DOBIS Replication Pilot

The proposed NLC-DOBIS Services price list is duplicated in an appendix to this report. NLC could provide support for the services with four months lead time from the decision to the implementation. NLC-DOBIS expects to let a contract soon and receive alternate terminals to IBM which will reduce per terminal costs. NLC expects to receive its new terminals in September.

D. Support of Public Libraries RECON

NLC believes that it could also support a RECON Project for the BC Public Libraries if all input were done on-line. Again, a lead time of four months to installation would be required. The BCUC Office is developing a cost estimate for GVLF.

E. Production of BCUC COM Catalogue in Canadiana Register Catalogue Format

NLC could and would support this production; but it obviously could not be done until all BCUC records were loaded at NLC. Therefore earliest production date would be June 1981.

III. Results and Findings (Continued)

F. Other Areas of Possible NLC-BCUC Cooperation

NLC is most interested in selecting a partner such as BCUC for the development of a general software interface between two host systems. NLC wishes the design to be such that any bibliographic system could meet certain protocols and interface two systems. Therefore, whether BCUC selects DOBIS or WLN for replication does not affect their desire or commitment to such an undertaking. The BCUC Director was provided with forms and instructions for writing an unsolicited proposal. The federal grant would provide 3/4 of the total needed resources to the federal agency's partner. Therefore if BCUC were to undertake this, it would be responsible for most of the software development.

If BCUC were to implement DOBIS, it is possible that this same unsolicited proposals funding route could be utlized for shared developments of: acquisitions DOBIS, interlibrary loans management system, etc.

G. Users Use of DOBIS at NLC and CISTI

Neither NLC or CISTI's cataloguing departments have implemented DOBIS. DOBIS is being used for the Union List of Serials and the Union Catalogue of Books. CISTI is also managing a serials conversion project using DOBIS.

It is generally expected that a trained terminal operator can convert approximately 30-35 serials records per day using DOBIS (including holdings information).

No information was available about the expected productivity for current serials and monographs cataloguing. Everyone commented that use of DOBIS for cataloguing would require a radical revision of the work flows. Neither CISTI nor NLC plan to use more professional librarians at the terminals. Both plan to retain a high proportion of non-professionals to do most of the terminal work.

There is no doubt, however, that the work flow using DOBIS for cataloguing must be carefully designed and thought through, because there are too many screens in the normal operations to allow using DOBIS efficiently. Chain commands are a necessity for effective production on DOBIS. In other words, the original DOBIS design concept of providing lots of user support may be an albatross around the neck of production oriented work flows. DOBIS pricing policy will encourage users to skip as many screens as possible when doing cataloguing and searching. In order to

III. Results and Findings (Continued)

G. Users Use of DOBIS at NLC and CISTI (continued)

support this necessity, DOBIS at NLC permits each terminal operator to load a program for a whole series of chain commands by re-defining key values. Much of the work flow design thus consists of dividing materials and processes into "chain command groups." This is the most dramatic contrast between DOBIS and WLN.

NLC Documents Reviewed for this Report

(1) National Library of Canada: The Future of the National Library Canada. Ottawa, 1979. 88 p.

(2) National Library Network Project: Interconnection support for a nationwide bibliographic network. A document prepared for the Executive Committee by the National Library Network Project. April 3, 1980. (Not released for distribution as of May 3, 1980) 27 l.

Includes Appendix, 2 p.: NLNP Networking Projects: Objectives and Selection Criteria.

(3) National Library Network Project: National Library Data Base Policy. DRAFT, for the Executive Committee. April 18, 1980. 14 l.

(4) National Library of Canada Data Base Policy and Administration Appendix: Existing Policy Statements. 9 l. Issued with the above document.

(5) Burns, Barrie: Scroll COM Fiche Capacities. (Interoffice memorandum.) April 23, 1980.

(6) Supply and Services Canada. Science and Procurement Branch. Science Centre: Preparation of Unsolicited Proposals. April 1975. 13 p.

(7) Canada. Treasury Board. Administrative Policy Branch: Policy and guidelines on contracting-out the Government's requirements in science and technology. April 1977. 23 p.

(8) Canada. Secretary of the Treasury Board: Circular Letter: Contracting-Out the Government's requirements in science and technology. January 6, 1978. Circular no. 1978-3.

(9) National Library of Canada: Canadiana: Canada's national bibliography, Microfiche edition. (An introduction) Ottawa, 1980.

(10) DRAFT Price List for DOBIS Services November 1979, revised 2nd draft December 4, 1979.

(11) Preliminary Planning for the Implementation of the On Line System in the Cataloguing Branch (5th Draft April 30, 1979)

NLC Documents Reviewed for this Report (Continued)

(12) Cataloguing Branch On-Line Systems Planning and Implementation Team. Procedures Subgroup: Suggested tasks/questions to be dealt with (in rough order). (May 1980 ?)

(13) Union Catalogue of Books in DOBIS: Matching Guidelines for DOBIS.

(14) Union Catalogue of Books in DOBIS: Data Elements and Coding Practices. Revised March 19, 1980.

National Library of Canada
Bibliothèque nationale du Canada

Library Systems Centre
Centre des systèmes de bibliothèque

B.C. UNION CATALOGUE PROJECT
MAY 23 1980
RECEIVED

May 20, 1980
Our file: 099

Mr. Paul Baldwin
Director, BCUC
Ministry of Education
7671 Alderbridge Way
Richmond, B.C.
V6X 1Z9

Dear Paul:

Thank you for your letters of May 5 and 9, and also for the copy of your report on your visit to NLC and CISTI.

As far as we are concerned in the Library Systems Centre, your report is an accurate description of our various discussions.

We are looking forward to work hands in hands with B.C.U.C. in order to develop and implement a decentralized library and information services network in Canada.

Best wishes,

Louis J.S. Forget
Director

395 Wellington
Ottawa K1A 0N4

Government of Canada | Gouvernement du Canada

MEMORANDUM **NOTE DE SERVICE**

TO / À
Bill Newman
Mary Joan Dunn
Rick Harrington

FROM / DE
Barrie Burns

SECURITY - CLASSIFICATION - DE SÉCURITÉ

OUR FILE/NOTRE RÉFÉRENCE
020

YOUR FILE/VOTRE RÉFÉRENCE

DATE
April 23, 1980.

SUBJECT / OBJET
Scroll COM Fiche Capacities

With the publication of the January/February and March/April issues of Canadiana (Microfiche), I have been able to review and revise my original estimates of the efficiency of the scroll format in comparison to a conventional 42X COM format of 207 frames (each frame equivalent to an 11 X 15 page of printed computer line printer output).

The following table summarizes my findings on comparative capacities for Canadiana (Microfiche) entries based on the January/February issue:

	Registers	Indexes
Average length of Entries (chars)	500	240
Scroll Format[1]		
Average entries per fiche	1,680	3,850
11 X 15 Frames[2]		
Average entries per fiche	1,242	3,312

That is, with the scroll format we can list 35.3% more Register entries and 16.2% more index entries per fiche than in the conventional 2-up frame layout.

It will be possible to improve the performance of the existing scroll layout by adding one more column per fiche (we now list only 35 instead of the 36 originally planned), and by adding 8-10 more output lines per column (some blank space is now evident below the bottom of each column). We are working with Datacrown to introduce these enhancements, the effect of which will be to permit the listing of at least 40% more Register entries and 20% more index entries per fiche than the 2-up format.

I hope these findings will be useful to those making decisions on COM formats for their products.

.../2

Notes:

1. Assumes:

   (a) Output at 42X, 6 lines/inch (8 lines/inch results in diacritics overlapping vertically adjacent print lines)
   (b) 35 columns per fiche
   (c) 880 lines/column
   (d) Column width 60 characters
   (e) One line left between each entry in Registers and indexes.
   (f) Breaking of entries between columns, frames, or fiche not permitted (for convenience of user)
   (g) Identical leading elements in index entries not repeated with each entry.

2. Assumes:

   (a) same as (a) above
   (b) 66 lines per column
   (c) 2 columns per frame
   (d) Column width 66 characters
   (e) 207 frames per fiche (no index frames)
   (f) same as (e) above
   (g) same as (f) above
   (h) same as (g) above

c.c. L. Forget
J.-E. Bériault
R. Penner
T. Reid
J. Higginson
R. Lawless

DRAFT

2nd draft
December 4, 1979

PRICE LIST FOR DOBIS SERVICES
NOVEMBER 1979

1. Ongoing Charges

1.1 Terminal connect time
$3.00 per terminal per hour while signed onto DOBIS

1.2 On-line usage
$0.01 per pressing "enter" on the terminal

1.3 Local information storage
$0.0075 per 1,000 characters per month of storage allocated to local files (for example, local document files, local access point files, local shelf list files, local holdings files, product queues, etc.)

1.4 Communications
$400.00 per line per month for communications within the National Capital area.

One communication line will be required for each cluster of terminals at a user sight. A cluster can have up to twelve or so terminals and the terminals must be in a radius of approximately 500 metres from the cluster controller.

Contact your DOBIS liaison officer for communications costs for terminals outside the National Capital area. It is likely that such installations will not be feasible until Datapac is installed on the DOBIS computer, unless a high volume of system use is possible from the remote location. Datapac is scheduled to be installed at the DOBIS computer in the NRC Computation Centre during the fall of 1980.

1.5 Products
$0.40 per record for up to the first 1,000 records selected in a selection run

$0.20 per record for the next 5,000 records selected in a selection run

$0.10 per record for the next 10,000 records selected in a selection run

$0.05 per record for the next 24,000 records selected in a selection run

$0.02 per record for more than 50,000 records selected in a selection run

Catalogue cards
$10.00 per production cycle
$0.05 per card

Magnetic tapes
$10.00 per submission
$6.00 per tape
$0.01 per record

Other printed or microfiche products:
$0.064 per generation of a register entry
$0.014 per generation of an index entry
$0.011 per relisting of a register entry
$0.007 per relisting of an index entry

For computer printed products:
$10.00 per submission
$0.11 per page for standard one-part forms
$0.13 per page for 2-part forms
$0.14 per page for 3-part forms
$0.15 per page for 4-part forms

For microfiche products:
$5.00 for set-up per submission
$4.04 per master microfiche (42X fiche with 324 8½ x 11" pages (frames) or in "scroll" format of 36 continuous columns of entries per fiche, without frames)
$0.20 per fiche copy (with coloured headers if desired)

48X and 72X fiche are also available as well as COM film. Contact your DOBIS liaison officer for a price list.

For photocomposed products:

	Roman type font		
	6pt	7pt	8pt
Cost per page			
Register	$17	$12	$10
Indexes	$20	$16	$12

Note that the record selection charge applies to all products. However, a record can be selected for more than one product at one time (eg. for products having an identical production cycle); and, a record does not necessarily have to be reselected for cumulating products (such as a cumulating COM catalogue).

The charges for generation and relisting register and index entries apply to all printed, microfiche and photocomposed products. Definitions are as follows:

- generation of a register entry. This involves formating a bibliographic record for an output product.

- generation of an index entry. This involves formating an index entry for an output product. Index entries point to register entries.

- relisting of a register entry. This involves reusing (from the previous cycle of the output product) the previously formatted bibliographic record. There is no record select charge for a relisted register entry. Normally a record is relisted if it has not undergone significant changes since the previous cycle of the product was produced. The user library decides, on a global basis by type of change, or on an individual record basis whether to reselect or relist changed records for a product.

- relisting of an index entry. This involves reusing (from the previous cycle of the output product) the previously formatted index entry.

Contact your DOBIS liaison officer for additional details.

1.6 Off-line loads of user files

Analyst charges for any non-standard format requirements for the load (see consulting/analyst charges) will be levied. After examining your format, your DOBIS liaison officer will supply a quotation.

1.7 Consulting/Analyst Services

For library specific enhancements to the system

Senior consultant per hour	$34.00
Consultant per hour	$30.00
Analyst per hour	$25.00
Junior programmer per hour	$20.00

1.8 Membership Fee

$1,000 per year

For DOBIS user documentation and updates, initial training, (use of "test" system), pilot training and support, technical set-up etc.

1.9 Terminals (if rented)

It is the responsibility of user libraries to order and pay the hardware vendor for terminals. The Library Systems Centre is prepared to provide details and support in selecting terminal hardware that is compatible with DOBIS. Prices will vary depending on the hardware selected and on the configuration of terminals at the user site, but should range from $100 to $300 per CRT terminal per month, and from $140 to $300 per printer per month.

Terminal hardware maintenance changes are also the direct responsibility of user libraries, and should be about 1% of the terminal purchase price per month (whether the terminal hardware is rented or purchased).

2. One-time charges

Terminals (if purchased)

It is the responsibility of user libraries to order and pay the hardware vendor for terminals. The Library Systems Centre is prepared to provide details and support in selecting terminal hardware that is compatible with DOBIS. Prices will vary depending on the hardware selected and on the configuration of terminals at the user site, but should range from $2,000 to $8,000 per CRT terminal or printer.

Terminal installation charges are also the direct responsibility of user libraries, and should range from zero to $60 per terminal (whether the terminal hardware is rented or purchased).

APPENDIX J

PROJECTED CENTRAL PROCESSOR REQUIREMENTS BCLN

RINGGOLD MANAGEMENT SYSTEMS
A DIVISION OF THE RINGGOLD CORPORATION

BOX 368 BEAVERTON OREGON 97075
503 645-3502

6 August 1980

PROJECTED CENTRAL PROCESSOR REQUIREMENTS
BRITISH COLUMBIA LIBRARY NETWORK
(Replicated WLN facility)

Initial Information from WLN (Partial retrieval from Ringgold files)

30 terminals have been operated on an IBM SYSTEM/360-65.

80 terminals have been operated on an Amdahl 470 V/6 with 2 MB of hard memory and used up to 5% of the capacity of that machine.

Relative System Performance (Source: ComputerWorld, 16 July 1980, p.10)

System	Relative Performance #	Ratio to Amdahl 470 V/6 %
IBM 4331	11	6
" 370-148	24	14
" 4341	37	21
Amdahl 470 V/6	177	100

Ringgold Projection for BCUC

Number of terminals, all libraries projected for 1980-81 and all applications available:

video	115
printing	29
Total	144

Ratio to WLN 80 terminals	180%
Proportion of Amdahl 470 V/6 capacity (assumes uniform increase)	9%

Projected Proportion of system capacity (using Relative Performance on a straight line basis)

IBM 4331	150%
" 370-148	66% 133
" 4341	43%

In the BCLN context and using a dedicated facility the batch processing can be scheduled to run on the second shift in order to avoid system overload during peak on-line use periods.

While there may be non-linear effects in moving from 80 terminals to 144 terminals, the effects would have to be severe, or the Relative Performance values substantially inaccurate, in order for the BCLN requirements to exceed the capacity of the IBM 4341. That is, the first 80 terminals are projected to require 5% of the Amdahl 470 V/6. This would be equivalent to 24% of the IBM 4341 (using the Relative Performance ratio). For the added 64 terminals for BCLN to consume the remaining 76% of the machine would require that the added terminals would require four times the capacity per terminal as that required for each of the first 80 terminals. This appears an unlikely result. Similarly, while the Relative Performance measurement will not be strictly predictive, the level of anticipated error is not likely to enough to consume the total capacity of the system with less than 144 terminals with the loading of WLN.

In summary, the IBM 4341 appears adequate to the loading that would be placed upon it by the replicated WLN facility supporting the anticipated 1980-81 volume of activity for cataloguing, acquisitions and interlibrary loan.

6 August 1980

COMPARISON OF UNICAT/TELECAT PROJECTION WITH BCLN

UNICAT/TELECAT Projection

(Source: DOBIS Evaluation Report for UNICAT/TELECAT, March, 1980)

Throughput, 1978/79 (p.2)	368,932 titles on 50 terminals
Projected direct usage of capacity of IBM 3031	31%
" CICS/VS " " " " " " , over	30%
Projected total " " " " " "	60 - 65%

A similar projection for the IBM 4341 is not made, however the following is stated, "The 4341 would have a capacity slightly in excess of the calculated need..." (p.3)

The statement is also made, "... the 3031 can be expanded to twice the proposed size and the performance significantly improved by c.p.u. speed upgrade. There is no certainty that such options will be available for the 4341." (p.4)

Extrapolation to BCLN

Projected BCLN cataloguing throughput, 1980/81

(net of university RECON)

current BCUC membership	230,000 titles
new members, 1980/81	50,000 titles
Total	280,000 titles

Comparison of cataloguing, BCLN to UNICAT/TELECAT

280,000 / 368,932 = 76% of UNICAT/TELECAT volume

On this basis, cataloguing only would require something less than 76% of the capacity of the 4341. If this projection is correct, there would not be sufficient capacity to support all applications - cataloguing, acquisitions and interlibrary loan for all libraries on the IBM 4341.

Four observations are in order:

1. It is not clear to what extent the formulas used can take into account the ability to schedule the batch load at times when the on-line load is low.
2. The central issue in the feasibility study is the comparison with UTLAS, which is for cataloguing only; here the study supports the cost projection provided to BCUC.
3. Given feasibility of the basic cataloguing services, it will be possible to increase computer capacity as it is needed. In this regard, the comment about the lack of certainty about an upgrade path for the 4341 is potentially misleading; it has long been a practice of the computer manufacturers to make it possible to trade out equipment for equipment providing a higher revenue flow to the manufacturer. Thus, if a larger model 4341 is not available by the time it is needed, a different model machine with larger capacity can be obtained.
4. The IBM 4341 was used as the indication of the current state of pricing of computer capacity. While the announcement of this series in early 1979 set the best price-performance ratio yet seen for machines in this size range, the plug compatible manufacturers have changed their pricing in order to maintain their competitive stance. Therefore, given the history of computing costs, the current state of system innovation and the specific strategies of IBM, it is reasonable to expect that central processor costs will continue to be reduced in relation to the performance provided.